MAY 23 1929

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature.

WITH SUPPLEMENT.

No. 3566. SATURDAY, MAY 11, 1929. Price 1/3

'CHARKAOLIN'
GRANULES

A Combination of Highly Activated Charcoal with 'Osmo' Kaolin

'Charkaolin' is a new and highly efficient agent for the treatment of intestinal infections characterized by abnormal fermentation and the formation of toxins. It combines the absorbent properties of highly activated vegetable charcoal with the well-known toxin adsorbing qualities of 'Osmo' Kaolin. It is in the form of fine, clean granules which disintegrate rapidly in water and diffuse their ingredients evenly throughout the liquid. 'Charkaolin' is tasteless, forms a fine suspension in water and is, therefore, quite easy to take.

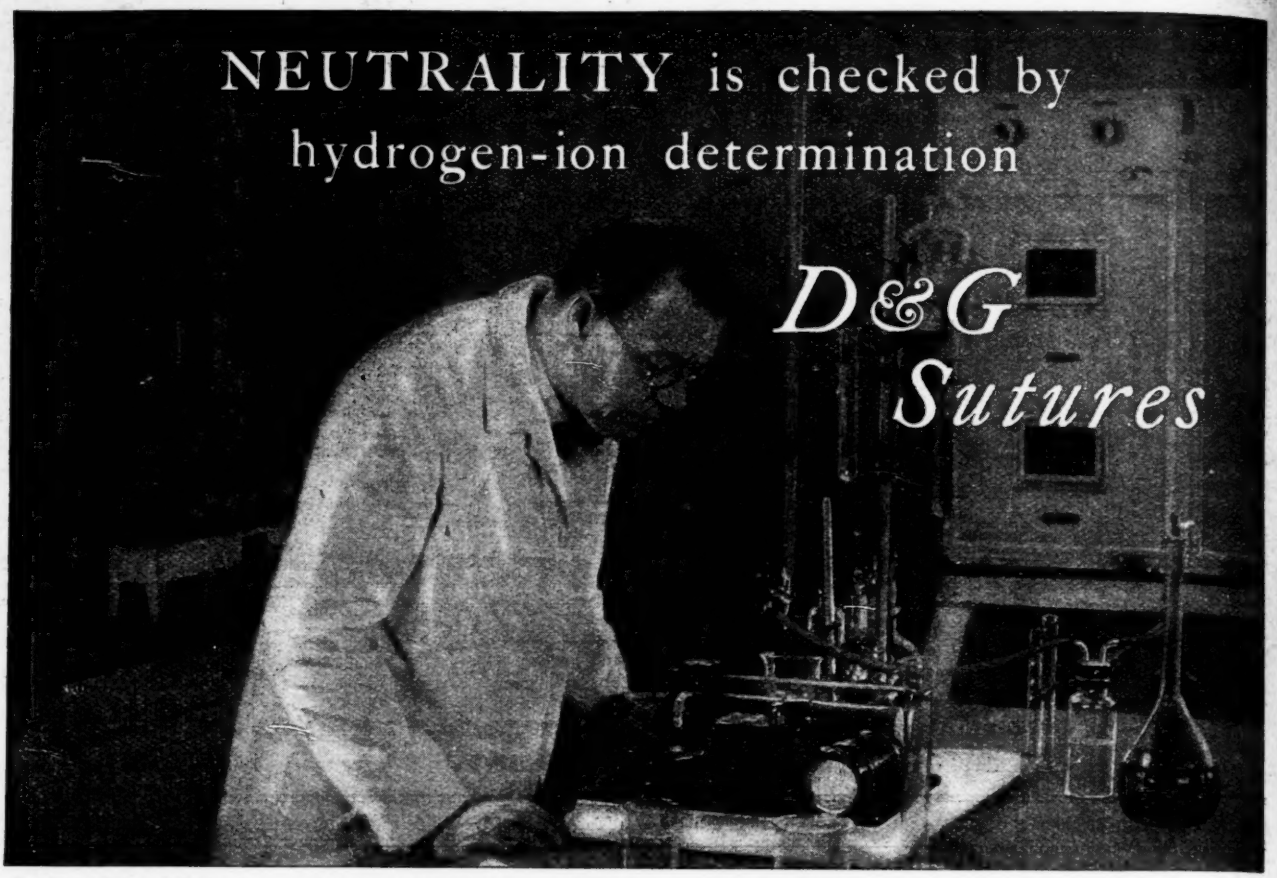
Descriptive literature and a clinical trial sample will be sent on application.

Allen & Hanburys Ltd.,
37, LOMBARD ST., LONDON, E.C3
West End House
7, VERE ST, W.1.

CANADA
Lindsay
Ontario

UNITED STATES
41 Maiden Lane,
New York City

Estd. 1715



C. F. THACKRAY ▾ PARK STREET, LEEDS ▾ 252 REGENT STREET, LONDON, W.1

The Therapeutic value of BRANDY–

its lifting and sustaining powers—as compared with other spirits depends on the presence or absence of the higher Alcohols or Ethers. These in turn depend on Grape, Soil, Stills employed, Climate, Storage, Selection and Experience.

It is quite easy to make a spirit from grape wine—It is neither easy nor cheap to make a Brandy containing the qualities you want.

Cognac Brandy alone provides them.

Take no risks; ensure the results you expect

Prescribe Brandy distilled in Pot Stills from Wines grown in the best Cognac districts; Matured in warehouses which have been filled with Cognac Brandy for centuries; Made by Men with the inherited Experience of Seven Generations.

In short—Prescribe MARTELL'S BRANDY

and know that you are doing the best possible for your patients.

An Address
ON
TUBERCULOSIS AND THE NERVOUS SYSTEM.*

BY
SIR FARQUHAR BUZZARD, K.C.V.O., M.D., F.R.C.P.,
REGIUS PROFESSOR OF MEDICINE, OXFORD UNIVERSITY.

THE title of my address gives me a wide choice of subjects for discussion, a choice which must be limited by the time at my disposal and influenced by the wish to touch upon matters of interest and importance. Before considering the direct results of the invasion of the nervous system by the tubercle bacillus let me call your attention to such changes as may occur in the personality of patients who suffer from tuberculosis of other organs. It would be surprising if changes did not occur, and equally surprising if they did not vary with, and to some extent depend upon, the inherent and acquired characters of the individual. What other factors may be concerned in their production? The psychogenic factor must be admitted, and this, at its outset anyway, can hardly fail to be a depressant in its action. In these days it is scarcely possible for a victim of pulmonary tuberculosis to be ignorant of the nature of his trouble or to be blind to the inferences to be drawn from the diagnosis of consumption or phthisis. The initial phase of depression, born of this knowledge, is not, however, necessarily of long duration; reassurance, the beneficial results of treatment, and possibly the absence of pain, combine to bring about a brighter outlook. But the "spes phthisica" denotes something more remarkable—that is to say, the inability of the patient to realize the gravity of his condition in spite of increasing distress, increasing disability, and all the signs which, to the onlooker, point to only one end. That "hope springs eternal in the human breast" is not a scientific explanation of this phenomenon and is not supported by another quotation from Pope: "Heaven from all creatures hides the book of Fate, All but the page prescribed, their present state." I would submit that in this instance it is the poisonous products of disintegrating bacilli, exerting their influence on the highest nerve centres, which hinder realization of the present state.

This suggestion does not seem so far-fetched if we recall the picture of Korsakow's psychosis, a clinical syndrome which in its earliest stages is characterized by a defect of retention for recent events, a lack of insight and some degree of euphoria, accompanied by the ability to converse with clearness, intelligence, and plausibility. In the majority of cases Korsakow's psychosis is etiologically concerned with the abuse of alcohol, but it has been observed in connexion with malaria, typhoid fever, and tuberculosis. In support of the toxic origin of phthisical optimism is the fact that it is more often observed in severe and chronic cases than in patients whose favourable progress would give it justification. In other words, its presence, although merciful, does not warrant a cheerful prognosis.

DISTURBANCES OF NERVOUS FUNCTION.

Most patients suffering from chronic tuberculosis undergo changes in disposition, changes which are common to many forms of invalidism and for which their relations and friends, on the one hand, and their general nervous exhaustion on the other, are mainly responsible. Irritability, lack of consideration, indecision, vacillation, and failure of concentration are all familiar features of any sick-room and cannot be considered pathognomonic.

Psychoses, generally speaking, have no special incidence on tuberculous patients, but the susceptibility of psychotic patients to pulmonary tuberculosis is, of course, well recognized, and the association of mental disorders with tuberculosis in family histories is met with more frequently than can be explained by coincidence.

The evidence for a specific peripheral neuritis of tuberculous origin is not convincing, and I cannot recall a case which gives it support. Multiple neuritis may develop in bedridden patients suffering from septic absorption, and it is difficult to disregard that factor in a case of tuberculosis complicated by secondary infections.

The regulation of the autonomic nervous system is often unstable; pyrexia, sweats, localized vasomotor disorders such as those seen on the cheeks, are significant in this connexion, and a syndrome indicating hyperthyroidism may attract attention. In addition, the cervical sympathetic nerve supply may be involved in the local morbid process and oculo-pupillary phenomena develop on one side.

No physician whose practice is largely concerned with thoracic disease can afford to neglect the study of pains, nor to overlook the significance of painful and tender areas on the surface of the body remote from their site of origin. The pain referred to the shoulder region, accompanied by cutaneous hyperalgesia, when the diaphragm is the seat of disease, is a case in point, and the various locations of headache associated with pathological disturbances in different parts of the lung are more than haphazard in their determination.

So much for some of the casual disturbances of nervous function resulting from the presence of a tuberculous lesion in any part of the body. Such a lesion, however, once established, must be regarded as a potential menace to the nervous system itself, with the possibility of attack either by direct extension through the tissues which form its natural, but not always efficient, protection, or through the medium of metastasis. Of all infections of the nervous system, with the exception of syphilis, the tuberculous is the most frequent, especially during the periods of infancy, childhood, and adolescence.

TUBERCULOMA.

This age incidence is applicable to the occurrence of tuberculomata, which are probably the commonest tumours of the brain in the young. The majority of them are more of academic interest than of practical importance, as they are often small, multiple, and discovered in patients who have succumbed to phthisis or to a secondary meningitis. They are generally located in that part of the brain and brain stem which fills the posterior fossa.

A more important, though less common, problem is presented by a large tuberculoma developing in one cerebral or cerebellar lobe, and giving rise to the characteristic signs and symptoms of an intracranial neoplasm. Such an event may occur in a patient who has an apparently quiescent tuberculous lesion in the thorax and whose general health is more or less unimpaired. A typical example of such a problem is afforded by a case with which I had to deal a few years ago.

A young married woman, about 24 years of age, was under my care in hospital on account of headache, vomiting, and early optic neuritis. She presented physical signs which pointed to a tumour of the right frontal lobe, and others which were unmistakably those of a small tuberculous lesion at the apex of one lung. The probabilities were in favour of a cerebral tuberculoma, but it was quite possible that a growth of some other nature might be responsible for the patient's trouble, and my colleague Sir Percy Sargent agreed to explore the site of disease. He found and removed a spherical hard mass, about the size of a large marble, embedded just beneath the surface of the brain and easily detachable from the surrounding soft tissue. Its consistence and attachment to the pia-arachnoid were more suggestive of some form of meningioma than of a granuloma, but, on section, it proved to be an encapsuled tuberculous abscess or broken-down tuberculoma. Its liquid content included no living pyogenic organisms, and its fibrous wall was nearly an eighth of an inch in thickness.

The operation was one demanding great care and skill in avoiding any escape of fluid from the abscess, or injury to the adjacent structures, but was completely successful in its object. So successful, indeed, that after a long stay in hospital and a convalescent home, the patient was able to return to her family fully restored to health. Unfortunately domestic conditions were unfavourable, the lung disease flared up, and brought about her death a year or two later.

* Delivered to the North-Western Tuberculosis Society in Manchester, on March 21st, 1929.

The risk of setting up an acute tuberculous meningitis in the process of removing tuberculomata must be constantly present to the mind of a surgeon undertaking the task, and considerable judgement is required in deciding on the propitious moment for operation. In some instances it is wise to give the patient a prolonged course of rest and open-air treatment before any attempt is made to eradicate the disease, so long as it is possible to keep him under strict observation and watch the progress of papilloedema and other physical disturbances. Adopting these principles, I have seen at least one large tuberculoma, with a firm capsule and caseous centre, removed from a cerebellar lobe with excellent and lasting results.

Under the microscope tuberculomata of the brain and spinal cord may be recognized by their caseous centres, surrounding which will be found a zone either of giant-celled nodules or of infiltrating epithelioid cells, along with disintegrated nervous elements. Further afield there is evidence of toxic degeneration of nerve cells and often an abundance of granular corpuscles. Neighbouring blood vessels are congested and, where they penetrate the outer layers of the tuberculoma, are found to be thrombosed. The amount of fibrous wall depends on the local reaction of the tissues, the virulence of the bacilli, and the age of the growth.

CHRONIC TUBERCULOUS MENINGITIS.

A subject which is of interest, and perhaps of more far-reaching importance than appears at first sight, is that of local chronic tuberculous meningitis or meningo-myelitis. The following story will illustrate its clinical and pathological bearings and emphasize their significance.

A girl, 14 years of age, with a history of having suffered from frequent epileptic attacks during the previous two years, came under my care in St. Thomas's Hospital. Her attacks were of the Jacksonian type, beginning with spasm in one upper limb and following a definite line of march before consciousness was lost. In the intervals the girl was quite well and free from headaches. Examination revealed no physical signs of disease, and there was no story of illness or injury which could be regarded as of etiological importance. A routine *x*-ray examination of the head, however, revealed an unusual picture. There were seen scattered over the precentral convolution of one hemisphere a number of small very dark shadows suggestive of osseous or calcareous bodies, some of which were in a position to account for the epileptic symptoms. Finding that the attacks could not be controlled by bromides, and encouraged by the radiographical findings, I asked Sir Percy Sargent to explore. He discovered an area of chronic leptomeningitis in which a number of calcareous nodules were embedded, and proceeded to dissect the latter away from that part of the motor area which is responsible for movements of the upper limb. The osteoplastic flap was replaced and bromide treatment was resumed with very much more successful results. Many months passed without any attacks, and the child was able to resume her normal life.

Although positive proof was lacking, there could be no doubt that we had to deal with the scars of an old tuberculous meningitis limited to a small surface area of one hemisphere. The calcareous deposits alone enabled the lesion to be detected by the radiologist, and so provided a clue to the pathology of the condition. In the absence of calcareous deposits that clue would have been wanting, and the question naturally arises as to the frequency of localized tuberculous meningitis and its possible bearing on the origin of many obscure cases of epilepsy. In exploratory operations on patients suffering from Jacksonian attacks focal thickenings of the leptomeninges, sometimes associated with small loculated collections of fluid, are not infrequently met with, and it seems quite likely that some of these may be the cicatrices of old tuberculous lesions. Certain it is that calcareous nodules in this situation are very rarely come across, in spite of the general use of radiography in cases such as the one I have described. On the other hand, small tuberculomata may be found in relation to the soft meninges in patients dying from generalized tuberculous infection.

JACKSONIAN EPILEPSY.

Having been led circuitously into the field of Jacksonian epilepsy, I am disinclined to leave it without uttering a protest against the common but fallacious belief that the removal of anything from the cerebral cortex or its meninges is an adequate measure in itself to arrest the disease. It cannot be too strongly emphasized that such a source of irritation is only one factor in the evolution of epilepsy, and that the habit or inclination to "fit" is not only as important, but a great deal more difficult to eradicate. An operation, therefore, should be followed by a prolonged course of bromide therapy if it is to be given any chance of achieving the object for which it has been undertaken. Surgical measures for the relief of epilepsy have often failed in the past on account of ignorance or neglect of this principle, and too much has been asked and expected of them.

ACUTE TUBERCULOUS MENINGITIS.

Acute tuberculous meningitis is so common, and so minutely described in all textbooks of medicine, that I shall make no attempt to retail to you its protean symptomatology. Since Robert Whytt of Edinburgh, in the eighteenth century, published his *Observations on the Dropsy in the Brain* its pathological features have been well recognized, and since 1833, when Gerhard of Philadelphia produced his monograph on *Tuberculous Meningitis in Children*, little of clinical interest has been added to our knowledge. But during the last ten years the advent of epidemic encephalitis has made the problem of diagnosis a more difficult one, in that both diseases can display identical symptoms and run very similar courses. When that diagnostic difficulty arises we are often obliged to rely on an investigation of the cerebro-spinal fluid in order to overcome it, and a short space of time will not be wasted in considering the information which can be derived from a lumbar puncture.

The fluid in tuberculous meningitis is usually clear, although in the later stages of the disease it may display a faintly yellowish turbidity. It always comes away under increased pressure, and, if allowed to stand, develops a fibrinous coagulum in the meshes of which a few tubercle bacilli can usually be detected. The cytology of the fluid is characterized by an increase of cells, chiefly, but not all, of the small lymphocytic variety, which may vary in number from 25 to several hundreds per cubic millimetre. Other cells, such as macrophage, large mononuclear, and plasma, are found in much smaller numbers in most cases. The amount of protein, always increased, varies from 30 to 200 or 300 mg. in 100 c.cm. of the fluid, and tends to rise in the course of the disease. Globulin reactions are usually positive. Glucose and the chlorides are progressively reduced in quantity, and the chlorides in particular may reach a lower level than is met with under any other pathological condition.

In encephalitis, on the other hand, the fluid is always clear except for the occasional presence of blood, and no coagulum ever forms unless haemorrhage has taken place. Its pressure is only moderately raised, and if cells are present in excess they are almost entirely of the small lymphocytic variety, and rarely number more than 80 or 100 per c.mm. Protein and globulin are generally within normal limits. The same remark applies to the chlorides, but glucose is often slightly increased in amount.

These are the essential features of the fluid obtained by lumbar puncture in the two diseases, and they afford a most competent guide to diagnosis when we are faced with an acute febrile condition in which there is evidence of diffuse and scattered lesions disturbing various functions of the central nervous system. A differential diagnosis based on the clinical picture alone is often difficult, sometimes impossible.

Another fairly common disease in children which may, in its early stages, give rise to a suspicion of tuberculous meningitis is that due to the virus of polioencephalitis and poliomyelitis. Symptoms and signs of meningeal irritation, in the form of headache, head retraction, and diplopia, with stabismus, are very frequent, and are often associated with vomiting and fever. The cerebro-spinal fluid in the pre-paralytic stage may afford help in arriving at a correct diagnosis. Its important features are a considerable increase of cells, from 30 to 1,500 per c.mm., of which the large majority are polymorphonuclear. Protein may or may not be slightly increased, while glucose and the chlorides remain normal. Changes in the cytological

picture rapidly appear, and in the course of a few days the cell count may reveal a large percentage of lymphocytes and a comparatively few polymorphs. But in spite of this lymphocytosis the glucose and chloride content is not diminished. In fact, the maintenance of the normal quantity of the chlorides must be regarded as strong evidence against the presence of increasing meningeal inflammation. The importance of this is further emphasized by the fact that in cases of poliomyelitis, as in cases of tuberculous meningitis, there may be seen a fibrinous coagulum which develops when the fluid is kept standing, and which is never met with in cases of epidemic or lethargic encephalitis.[1]

The value attaching to examinations of the spinal fluid in the diagnosis of tuberculous meningitis is much increased when this disease occurs in older subjects. In adults the clinical picture often differs from that seen in infants, and sometimes presents great difficulties. I refer particularly to its insidious onset, long-drawn-out course, the slight or absent fever, and the prominence of mental as opposed to physical disturbances of function. It must be within the recollection of most of us to have met with cases of this kind in which the diagnosis has only been arrived at after much delay.

The prognosis in acute tuberculous meningitis when it is only a part of a general miliary tuberculosis is as bad as it can be. But the same cannot be said when the spread of infection is limited to the nervous system, and the diagnosis of tuberculous meningitis, even when acute, does not always justify a hopeless outlook. I have seen more than one patient recover, and careful review of this subject some years ago led A. E. Martin to these conclusions:

> 1. That undoubtedly long remissions and even recoveries do occur in tuberculous meningitis.
>
> 2. That recoveries are possibly more frequent than has been believed, since no fewer than twenty established cases have been recorded since 1894, together with a number of others in which the same definite proof has not been afforded.
>
> 3. That in these cases either the resistance of the individual is so much greater than usual that the disease is checked early in its course, or the virulence of the bacilli is so much less than usual that the lesion in the meninges becomes localized and undergoes a fibrous change.

On the other hand, he goes on to say "that the lesion in the meninges may at a later period form the focus of a fresh infection which usually terminates fatally, and that consequently the prognosis in these cases must be guarded."

Martin, as was natural, regarded the discovery of tubercle bacilli in the cerebro-spinal fluid as the fundamental evidence requisite for establishing a correct diagnosis. Later writers have shown that bacilli are discoverable in almost 100 per cent. of cases if care and skill are employed in the search for them.

Tubercles in the choroid were of more importance in the diagnosis of tuberculous meningitis before lumbar puncture became part of a physician's equipment. They were first seen with the ophthalmoscope by Jäger in 1855, but their presence cannot be regarded as sufficiently frequent to afford much help, and their absence cannot be advanced as an argument against the diagnosis of tuberculous meningitis. Moreover, it must be remembered that they have been observed in tuberculous subjects without other evidence of involvement of the nervous system. Although of little practical importance, therefore, they nevertheless provide us with the only opportunities for seeing isolated tubercles during life, and the white, yellowish, or reddish-yellow, rounded spots with pale centres are very characteristic when they come under observation. As a rule they cause no symptoms, although transient disturbances of sight have been recorded.

Spinal Caries.

No consideration of tuberculosis in relation to the nervous system would be complete without reference to Pott's disease of the spine, or spinal caries. That cases of this disabling disease have become less numerous and less disastrous during the last quarter of a century can hardly be denied, and the credit for that blessing may be frankly given to those who are concerned principally with the preventive side of medicine.

Percival Pott was a surgeon on the staff of St. Bartholomew's Hospital whose name might not have been known to posterity except for two reasons. In the first place, he was fortunate enough to fall in the street and sustain a fracture of the fibula which thereafter bore his name. As the result of the enforced leisure consequent on this accident he took to writing, and some years later, in 1779, produced his epoch-making pamphlet on palsy from spinal deformity. In the second place, he earned our gratitude for being the man from whom John Hunter derived not only much of his medical knowledge, but his inspiration for pathological research.

Pott, however, did not really describe the tuberculous nature of his disease, which had been surmised by Hippocrates and Galen, but drew attention to the characters of spinal deformities and their sequelae. The tuberculous origin of spinal caries was finally established by a less fortunate Frenchman, Delpech of Toulouse, the pioneer of orthopaedic surgery in that country. He met a violent death at the hands of a patient on whom he had operated for varicocele and who thought he had thereby been rendered unfit for marriage.

So much for the romance of Pott's disease. It has another aspect worthy of our notice in the question of its treatment, the guiding principles of which demand some acquaintance with the pathology of the disease and with the mechanism of compression paraplegia.

Spinal caries is an osteomyelitis of the vertebrae commencing either in the cancellous tissue of the body close to an intervertebral disc or at the root of the laminae. Much erosion of the body may take place, with or without resulting deformity and without disturbance of the spinal cord. In the same way an abscess, arising from a small focus of bony disease, may track in various directions and attain a great size without the development of a kyphosis or paraplegia. On the other hand, paraplegia may be the first symptom of the disease without obvious abscess formation or angular curvature.

Speaking generally, it is not often that bony deformity alone produces paraplegia, nor is the presence of a psoas or lumbar or retro-pharyngeal abscess necessarily associated with nervous symptoms. Compression usually results either from an abscess bursting through the posterior common ligament or from tuberculous granulations filling up the epidural space and forming a cuff of dense tissue around the dura mater. As a consequence of this strangulation the subarachnoid space may be completely obliterated and the vascular supply of the cord seriously interfered with. Only rarely does the displacement of a sequestrum backwards from a diseased vertebral body cause direct pressure on the cord, or a sharp kyphosis bring about a kinking of that organ.

In deciding on the appropriate line of treatment for any particular case, all these pathological processes must be passed in review and the attempt made to assign the paraplegia to one or more of them. It is of paramount importance to remember that the injury done by compression largely depends on interference with vascular supply, which leads to ischaemia, softening, and finally sclerosis. Unless the circulation can be restored and maintained, return of function is impossible, and the longer circulation is inadequate, the less chance is there of an ultimate success for treatment. Therefore, before deciding on rest and extension as the measure to be adopted, every effort should be made to exclude the presence of such compression as will not be relieved by that form of treatment. An abscess inside the vertebral canal may need evacuation, or a simple decompression may suffice when the epidural space is filled with granulomatous tissue.

On the whole, it is true to say that caries in children is more often cured by simple rest and extension than it is in adults, but every case must be considered on its own merits and in the light provided by the known pathology of the disease.

[1] Vide *Cerebro-spinal Fluid in Clinical Diagnosis*, Greenfield and Carmichael.

THE TREATMENT OF CARCINOMA OF THE CERVIX WITH RADIUM.

BY

GILBERT I. STRACHAN, M.D., M.R.C.P., F.R.C.S.,

ASSISTANT OBSTETRICIAN AND GYNAECOLOGIST, CARDIFF ROYAL INFIRMARY; FIRST ASSISTANT TO PROFESSOR OF OBSTETRICS AND GYNAECOLOGY, WELSH NATIONAL SCHOOL OF MEDICINE.

THE wide prevalence and extreme malignancy of carcinoma of the cervix are well appreciated by all practitioners, and any method of treatment which promises cure or alleviation calls for careful investigation.

In operable cases the results of surgical excision, especially in expert hands, have been of great benefit, and many lives have been saved by this method. But it is common experience that in many cases presenting themselves for the first time for examination the disease is advanced beyond the possibility of operative removal. This "operability rate" is estimated with considerable variations in different centres and according to the personal leanings of different surgeons. Bonney finds only 36 per cent. of his cases inoperable, while in the Cancer Hospital, London (Cole), the percentage is quoted at from 88 to 93, and other centres quote intermediate figures. Taking involvement of the adjacent vaginal wall as a useful criterion of inoperability, we find in Cardiff that 90 per cent. of our cases of carcinoma of the cervix are inoperable when first seen. For the alleviation of these advanced cases many palliative remedies have been advocated, and the most important of these is exposure to the gamma rays of radium. It is our experience with this method of treatment in advanced cases of carcinoma of the cervix that we wish to discuss in this paper.

THE ACTION OF RADIUM.

It would be out of place in this article to discuss the physics of radium, but the clinical effect on tissues can be considered. In general terms the action of radium is to produce cellular death, but this effect varies within wide limits with the amount of radium used, the duration of exposure, and the type of tissue involved. The destructive effect is most marked in the case of embryonic cells, as in a malignant growth, or in the Graafian follicles of the ovary; it is less marked in the more mature cells of a benign neoplasm, and is least marked in the case of the adult type of cells forming the parenchyma of organs.

The important point now emerges that the more malignant a tumour the more susceptible is it to the destructive action of radium (Bergonié and Tribondeau), and several workers, such as Ewing, Martzloff, Broders, and others, have attempted to judge from the degree of malignancy or anaplasia of the cells of tumours the degree of radio-resistance or radio-sensitiveness of these tumours, and the corresponding likelihood of radium being effective as a remedial agent or the reverse. These researches have not been of great practical value, and at present we know of no criteria by which the effect of radium on a given carcinoma can be foretold.

The exact manner in which radium produces its lethal effect is not yet known. It may be by a direct action on the tumour cells, or by an indirect action, such as by the production of thrombosis or of antibodies. Ewing is of opinion that the constituents of the cells are ionized and the intercellular ferments stimulated, while Dixon points out that radium has a marked effect in decomposing lecithin; and it is just those tissues which are rich in lecithin which are most affected by radium. The cellular degeneration may therefore be due to the effects of the decomposed lecithin. The known action of radium in producing thrombosis must also be kept in mind as at least a contributory factor in this respect.

The clinical changes occurring in a carcinoma of the cervix reacting satisfactorily to radium have lately been summarized by Farrar of New York as (1) hyperaemia one week after the application; (2) slough formation on the surface of the cervix three weeks later; (3) separation of the slough one month later; (4) a stage of contraction due to fibrosis after another month; and (5) a final stage of marked upper vaginal and cervical contraction. These findings are in general accord with our own experience, but the time factors have been found to be somewhat more variable than those stated. The histological changes occurring as the result of irradiation have been described by several writers, and need not be gone into here.

PRELIMINARY EXAMINATION.

While irradiation is the treatment of election in advanced cases of carcinoma of the cervix, not every case in this category is suitable for radium, and for this reason alone it is necessary to carry out a careful preliminary investigation in every case which it is proposed to treat by this agent. The following points call for investigation.

1. *The general condition of the patient* is important. A cachectic and emaciated patient is a poor subject for radium, which in such a case may do more harm than good. In these cases radium should be withheld until the general condition has improved, if it is going to improve, by rest and appropriate feeding.

2. *Anaemia* from repeated haemorrhages or from toxic absorption from a foul cervix should be looked for in every case. In general it can be laid down that, with a red cell count of 3 million or under, or with a haemoglobin index below 40, radium should not be applied on account of the danger of still further increasing the anaemia.

3. *Extensions* of the disease should be investigated. Tenderness and swelling in the loins would indicate hydro- or pyo-nephrosis from ureteral obstruction, and would constitute a contraindication to irradiation. Increased liver dullness, especially if associated with jaundice, points to secondaries in this organ, while suprapubic swelling might point to pyometra.

4. *The local condition* is to be carefully examined, if necessary under anaesthesia, and the size, character, and extent of the tumour accurately estimated, as well as the degree of parametrial infiltration and uterine fixation present. The size of the uterus is important: if enlarged it may indicate pyometra, and in such a case careful uterine exploration should be carried out. The fornices should be carefully palpated for any signs of salpingitis, pyosalpinx, or pelvic abscess. It has to be emphasized that *in the presence of any inflammatory pelvic lesion*, such as a foul carcinomatous ulcer, pyometra, pyosalpinx, or pelvic abscess, *radium should not be applied* until the condition is cleared up, owing to the risk of setting up peritonitis.

5. *Involvement of rectum or bladder*, as indicated by symptoms of tenesmus, dysuria, or bleeding, or as found on physical examination, would constitute contraindications to irradiation. The disease is far advanced in such cases, and the effect of radium would be merely to hasten fistula formation. It follows that the presence of a definite fistula into either of these organs, especially into the bladder, would render the case unsuitable for radium. Occasionally radium may be applied in the presence of a small rectal fistula, but never in the presence of a vesical fistula.

Only after a thorough preliminary examination of this nature should radium be applied.

TECHNIQUE OF APPLICATION.

In different clinics in this country, on the Continent, and in America considerable variations exist regarding the amount of radium to be applied, the duration of dosage, and the manner of insertion. The technique here described has been evolved by us since 1922.

Before radiation the vagina is douched twice daily with weak lysol, and the rectum cleared as for perineorrhaphy. If the surface of the carcinoma be foul, radiation is postponed and douching continued until it is clean.

With the patient under anaesthesia in the lithotomy position, a final bimanual examination is made to verify the points mentioned above, and after exposure with a speculum the cervix and vagina are thoroughly swabbed with tincture of iodine. If possible, the cervix is now gently steadied by vulsella, but in advanced cases there may be no cervix left owing to extensive ulceration. A section of the tumour, if possible with a piece of the adjacent healthy tissue, is now taken for microscopical examination.

A sound is then passed through the cervical canal in order to determine the position of this in the ulcer, to estimate the size of the uterine cavity, and to explore for the presence or absence

of pyometra. If pyometra be present the cervix is dilated and the condition drained, while radiation is postponed until the uterine discharge has ceased. It may be very difficult, and in some cases impossible, to find the cervical canal in the midst of the carcinoma, but prolonged and gentle attempts should be made for the reasons stated; in such difficult cases the canal is often to be found at some point in the periphery of the growth. One 50-mg. tube of radium sheathed in platinum is then introduced with Pinch's forceps well up the cervical canal; if the growth extends particularly to one or other side a tube of 25 mg. is inserted in this extension, while round about the periphery of the tumour five or six 10-mg. tubes are buried. The 50 and 25 mg. tubes are 2.5 cm. in length, and the 10-mg. tubes are 1.7 cm. in length. They are of platinum, and one end is pointed, while at the opposite extremity is an eye through which a length of silk is threaded. These radium tubes should be inserted well up into the substance of the growth.

The silk threads from the eyes of the radium tubes are then knotted together, and this strand is tied to the end of a roll of gauze, which is firmly packed into the vagina, especially into the anterior and posterior fornices, so as to keep the rectum and bladder as far from the effects of the radium as possible. Finally, a self-retaining catheter is passed into the bladder.

After twenty-four hours the catheter and packing are taken out, and along with the latter the radium tubes are easily removed by gentle traction. Another vaginal douche of lysol is given.

The amount of radium inserted therefore depends to some degree on the extent of the lesion, and in this respect we fully agree with Ward of New York, who maintains that every case is an individual study, and that no definite dosage can be laid down for all cases. The usual dosage is from 125 to 150 mg., and this, left in for twenty-four hours, represents a milligram-hour dosage of from 3,000 to 3,600.

Daily douches are given, and the patient is allowed up in a few days, and usually goes home by the end of the week. She is instructed to give herself a daily vaginal douche until she reports again for examination in four weeks' time. This is beneficial not only in keeping the parts clean but also in the prevention of vaginal stenosis. The patient is examined again in a month and after that at intervals. Further irradiation depends entirely on the reaction of the tumour to the first insertion. In some cases it has been found that a single irradiation produces a beneficial and evidently permanent effect, while in other cases several applications have been required.

Deep *x*-ray therapy, applied either to or subsequent to local radiation, is now being used in a number of clinics. While it is difficult to find any figures to show improved results from this therapy, it is likely that in the future this will form an important adjunct to local radiation, especially with improved technique of application. The main objection to deep *x*-ray therapy has been that the action is not localized to diseased tissues, and that healthy organs, such as the bowel, may be affected, with resulting gangrene and perforation. These accidents have happened, but with more modern and improved technique it is likely that this aspect will be eliminated and the rays concentrated more especially on the diseased parts.

Clinical Results.

In considering these it will be seen that the majority of patients with carcinoma of the cervix treated by radium have died at varying intervals. But in this connexion it has to be remembered that all these cases were advanced when first seen, with involvement of the vaginal walls, and mostly with impaired uterine mobility and parametrial infiltration. They were inoperable by any usual clinical standard, and under these circumstances a high mortality is to be expected. It has to be emphasized that no patient died as the result of irradiation.

In discussing results it is unsafe to use the word "cure," as experience has shown that a number of cases apparently cured recurred even after several years, and it is better to use such terms as "alive" or "free of symptoms" in describing such cases.

Since we started using radium in this condition, late in 1922, 153 cases have been treated, and of these 40 are now alive, while 113 are known to be dead or have failed to report. It may be stated in passing that, as the result of the help which we obtain from the Cardiff, Glamorganshire, and Monmouthshire health authorities, no case has been lost sight of for the last three years, and we acknowledge our deep gratitude to these bodies. The cases (40) still alive may be tabulated as follows:

	Total Cases Treated.	Number Alive.	Percentage Alive.
First treatment:			
Over 5 years ago	26	0	0
„ 4 „ „	43	3	6.9
„ 3 „ „	72	5	6.9
„ 2 „ „	98	8	8.1
„ 1 year ago	117	14	12.1
Less than 1 year ago „	153	40	26.5

Of the other 113 cases, 89 are known to have died, while 24 have been lost sight of. While it is certain that at least the majority in this category of "failed to report" have died, they cannot be included for statistical purposes. These 89 cases can be tabulated in this way:

Duration of Life since First Irradiation.	Number of Cases.
Over 5 years	2
„ 4 „	2
„ 3 „	3
„ 2 „	6
„ 18 months	6
„ 12 „	15
„ 6 „	25
Under 6 months	30
	89

The average duration of life in these patients who died was 13.2 months.

Practically all the deaths occurred after discharge from hospital, so that in very few cases were post-mortem examinations obtainable. The reported cause of death was usually increasing weakness from toxic absorption or ascending renal infection (especially in cases where vesico-vaginal fistulae had developed). Rarer causes were intestinal obstruction (2), pyaemia, and secondary anaemia and general exhaustion following the development of a large abscess in the buttock (1 each).

Relief of Symptoms.

Apart from the saving of life, an important feature in the successful use of radium is the amount of relief obtained from the distressing symptoms of uterine haemorrhage, foul discharge, and pelvic pain, and it is our opinion that even if life were not prolonged by a day irradiation would be justified in its use for this reason.

Haemorrhage was controlled in 90 per cent. of the cases; in 10 per cent. it recurred before death; and in 80 per cent. it ceased permanently. Vaginal discharge ceased in 60 per cent. of cases, and was improved in another 15 per cent. Pelvic pain was relieved in 45 per cent. of cases; in 30 per cent. it was not influenced; and in 25 per cent. it was aggravated or appeared for the first time after irradiation.

Conclusions.

It is obvious from the foregoing that, while radium cannot as yet be described as a certain and definite "cure" in all cases of carcinoma of the cervix, the results are encouraging, taking into consideration the initial extent of the disease in the cases reported. It has to be remembered that this treatment is in its early stages, and with improved technique, especially as regards the subjecting of all the primary and secondary tumour cells to the immediate effects of radium, improved figures are confidently to be expected. There is a vast field here for investigation and research, which is being energetically carried out in many centres. As a palliative agent, however, radium is the most potent that we possess, and in this way alone it has abundantly justified its use in the relief of the distressing symptoms of the condition.

I feel compelled, in conclusion, to protest against the manner in which radium has been hailed as a "cure for cancer" by certain sections of the lay press. Much false hope and subsequent disappointment have been created by this propaganda, and although funds have in some cases

been obtained for hospitals for the purchase of radium by these means, scientific and clinical progress has been correspondingly embarrassed.

The main hope of advance in the treatment of carcinoma by radium lies in the combined investigations of the clinician, the pathologist, and the physicist, and it is in this way only, and not by startling newspaper headlines, that future clinical results are likely to improve.

LITERATURE.

Bergonié, Tribondeau, and Récamier: *C. R. Soc. de Biologie*, 1905, 284.
Broders: *Journ. Amer. Med. Assoc.*, 1920.
Cole, Percival P.: *British Medical Journal*, 1925, ii, 831.
Dixon, W. E.: Ibid., 1929, i, 238.
Farrar, Lilian K. P.: *Surg., Gynecol. and Obstet.*, December, 1926, 719.
Martzloff: *Bull. Johns Hopkins Hosp.*, 1923, xxxiv, 141.
Ward, George Gray: *British Medical Journal*, 1928, ii, 607.

TECHNIQUE OF INTRA-ABDOMINAL INSERTION OF RADIUM FOR CARCINOMA OF THE CERVIX UTERI.

BY

MALCOLM DONALDSON, M.B., F.R.C.S.,

PHYSICIAN ACCOUCHEUR WITH THE CHARGE OF OUT-PATIENTS, ST. BARTHOLOMEW'S HOSPITAL.

It will be many years before the public is sufficiently educated in medical matters to realize that periodic overhauls of their bodies are as necessary as for their motor cars. For a long time, therefore, there will be a large number of patients with advanced cancer, especially carcinoma of the cervix.

In discussing the problem of cancer treatment it is of some importance to consider why an advanced case of malignant disease should be more difficult to cure by radiotherapy than an early case. When dealing with "excisional surgery" it is easy to realize that if the diseased area is extensive it will be impossible with a knife to cut this out without excising portions of essential organs, with fatal results to the patient. In radiotherapy, on the other hand, it is not so easy to be certain why there is such difficulty in destroying malignant cells placed deep in the pelvis when it is so easy to destroy them if placed on the tip of the cervix. There are several possible explanations for this difference.

First, it may be the better blood supply that is found in the region of the deeper part of the growth: Strangeways and Fell found that the reaction of tissues in the embryonic chick to *x* rays differed considerably before and after circulation had been established.

Secondly, it is possible that the cancer resistance of the body materially helps the radiotherapy in early cases, but that in the more advanced cases no such help is forthcoming. This idea is very seriously considered in Sweden.

Thirdly, the type of cell developed in these late cases may in itself be more radio-resistant; this, however, is hardly likely, as the cells in the cervix and more exposed part of the growth are just as easily destroyed in the late stages as in the early cases.

Fourthly, there is the simple explanation that it is more difficult to apply an efficient dose to these more distant cells. It is with this simple explanation in view that I am at the present time treating a series of patients by means of intra-abdominal radium.

It is to the Brussels Radium Institute that we owe the first attempt along these lines. The technique they used in 1919 consisted in putting the patient in the Trendelenburg position, opening the abdomen, and, when the posterior layer of the broad ligaments had been incised, placing 20 mg. of radium element in a single tube at the base of each ligament. In addition to this they sometimes put needles into the uterus. The sutures from these tubes were carried out through the lower end of the abdominal incision, and the whole pelvis was packed with 6 to 8 yards of gauze. At the end of four or five days this was removed, with or without an anaesthetic. I modified this technique by using needles instead of tubes. Thirteen cases were treated with a modified technique during 1923–24. Of these thirteen cases:

One was of the first degree and is living and well after four years.
Four were of the second degree, and of the four cases two are living after five years, although the latest report from one is not very satisfactory. Two have died, one after fourteen months and the other after seven months.
Six were of the third degree; three of these six are living after five years or more, and three have died, having lived less than one year.
Two were of the fourth degree; one is living after five years and the other died after a year and ten months.

It will be seen, therefore, that of the thirteen cases six are alive after five years, and one has lived for four years and shows no signs of the disease.

Present Technique.

The intra-abdominal insertion of radium is usually carried out about six to eight weeks after the vaginal application—that is to say, when the local external growth has disappeared and all ulceration healed. No attempt so far has been made to combine the intra-abdominal application at the same time as the vaginal, merely on the theoretical grounds that, whilst there is an infected area in the cervix and fornices, it is perhaps not wise to do anything to the abdomen and parametrium which might lower the resistance to that infection.

The patient is put into the Trendelenburg position and the abdomen opened, a general examination is made of the liver and aortic glands, in addition to the pelvic organs and the iliac glands. The intestines are packed off and the uterus is pulled forward; the parietal peritoneum is then picked up with forceps and the needle inserted, leaving only the eye of the needle protruding from the peritoneum. The suture is put through a small portion of the peritoneum below the level of the needle eye, and the knot tied over a glass bead to prevent cutting through the thin peritoneal tissue.

The needles are placed at a distance of 1 to 1½ cm. from each other, starting at one sacro-iliac synchondrosis and ending at the corresponding joint of the opposite side. In addition four, or possibly more, needles are placed in front of the broad ligaments in the hope of eradicating the disease from the obturator glands. The ends of the ligatures are tied together and pushed down into the pouch of Douglas. The abdomen is sewn up completely and the radium left *in situ* for seven days. At the end of this time the abdomen is again opened and the radium removed.

An objection to this technique is the second laparotomy at the end of a week, but up to the present it has been felt that in order to keep them in position the needles should be sutured to the peritoneum, which makes it impossible to pull them out. In addition to this they are often placed at an angle to the line of traction, and damage might be done if pulled out blindly. Dodd of the Westminster Hospital has modified this technique by using radium needles in catheters placed retro-peritoneally so that they can be withdrawn through stab incisions. In addition he combines this with excision of the glands.

Immediate Results.

The first case chosen in this series was a patient (second degree) in whom it was considered there was a reasonable chance of the treatment being of some value, and the operation took place in October, 1927. Three or four months were allowed to elapse in order to see if there were any untoward symptoms before attempting the technique again. At the end of this time the patient was found to be extremely fit. During the year 1928 twelve other cases were treated in a similar manner. Of these, three were diagnosed as being first degree, two were of the second degree, two of the third degree, and five were of the fourth degree.

Of the first degree patients there is little to be said except that on opening the abdomen one of these was found to have enlarged obturator glands. The operation was done in September, 1928, but in December a letter stated that she did not feel very fit, and she died in February, 1929. Another, operated on in June, is very

well at the present time. The third, operated on in July, 1928, has vague pains, but appears to be doing well. The two patients diagnosed as second degree are both doing well.

Of the third degree patients one, operated on in March, has died recently. This patient is of particular interest because when she had her vaginal application it was noticed that there was a swelling in the region of the right kidney. At the intra-abdominal operation it was found that this swelling was due to a hydronephrosis, which seemed to be caused by the pressure of the growth round the ureter. In spite of this the patient wrote in December, saying, "There is no doubt my health generally is greatly improved. I feed regularly and have regained much of my lost weight."

Of the fourth degree patients one had a slight degree of intestinal obstruction and masses of glands were found in the pelvis; a colostomy was performed and radium was inserted. She has since died, and there is no evidence that the radium improved her condition.

Another late case was admitted in April, 1929. The patient was so anaemic that a blood transfusion was carried out before putting the radium in per vaginam. She had an ulcer of the cervix two inches in diameter, involving the fornices. Two months later the vagina had completely healed and an intra-abdominal operation was carried out. Glands were found near the aorta, which felt hard and were probably malignant. In December there was marked induration in front of the rectum, but the patient was extremely fit considering her original condition. In another very advanced case the patient was treated in May and was found to have pus in Douglas's pouch. Radium, however, was inserted, and there is little doubt that this was an error of judgement, as, in spite of drainage, the patient got general peritonitis and died as a result of the operation.

The next patient in this series was operated on in September and found to have large masses of glands, some the size of a walnut. It was realized that it was not possible to effect a cure, but it was thought that if those near the uterus were diminished in size it might reduce the amount of pain at a later date. The needles were therefore concentrated on those glands. In December the mass of glands did not seem to be diminished and the patient was obviously not so well.

The last of the fourth degree patients was treated in December. Considerable adhesions were found in the pelvis but no markedly enlarged glands. There was, however, much induration in both the broad ligaments. Following the removal of the radium there was a certain amount of wound infection, but this cleared up and the patient left hospital in fair condition.

It will be seen, therefore, that of the 13 cases 9 are living, but it is too early to say much about their condition.

Conclusions.

Since it has been proved beyond doubt that radium will entirely eradicate carcinoma in the cervix and vagina it is logical to try and extend the influence of the radium to the growing edge of the tumour by means of intra-abdominal radium. The cases so far treated show that this method is not attended by any undue risk to the patient, and the small series treated in 1923–24 show sufficiently good results to justify us in investigating further this line of treatment.

RADIUM TELETHERAPY: EXPERIENCE WITH A TEMPORARY "BOMB."

BY

FRANCIS ROCK CARLING, B.Sc.LOND.,

TECHNICAL ADVISER FOR RADIUM WORK, WESTMINSTER HOSPITAL.

FEW medical men are unaware of the excellent results of radium treatment of primary growths and accessible glandular metastases by needles and seeds, but only those constantly employing these methods are fully awake to their limitations. If local and accessible manifestations can be successfully treated with gamma rays, so also should the inaccessible lesions; and therefore until the difficulties of producing α-radiation of a sufficiently high frequency have been overcome radium teletherapy must be provided.

It is well to follow the line of thought that has led to the technicalities of teletherapy. Whatever be the view taken as to the mode of action of gamma rays on normal or cancer cells, the treatment is substantially the same. An attempt is made to dose the cancer adequately without overdosing the patient, and to this end the cancer is irradiated more intensely than the rest of the body whenever possible. The dosage, measured as it is in milligram hours or millicuries destroyed, is a measure of available energy of which as a rule only a small proportion is absorbed by the cancer, and a larger by the surrounding tissues. The cancer itself can be adequately dosed by widely varying values of intensity and time, but the patient stands the best chance of recovery only when those values are suitably chosen. The usual method of placing needles or seeds interstitially provides economically a more intense irradiation in the growth than in the surrounding tissues; it is also possible in a large measure thus to provide the optimum intensities, but it has been found that local applications are by no means always sufficient, and in practice an attempt is made to irradiate more generally from over the lesion by the so-called "surface application." This system, employing radium at a short distance from the skin, usually about 15 millimetres, is elementary teletherapy. Surface application is usefully employed only when the lesion is close to the skin. To extend the system to the treatment of deeper manifestations Sluys of Brussels uses radium similarly at a distance of 5 cm. from the skin, and in teletherapy proper the radium is employed at distances as great as 16 cm. This has given rise to the belief that gamma rays penetrate to a greater depth when the source is farther from the surface. It is of course quite erroneous; but greater distance does enable us to irradiate usefully to a greater depth, for the reason that the necessary intensities can then be maintained without producing destructively high skin and upper-layer intensities.

The intensity of irradiation is reduced in proportion to the square of the distance from the source, and also by absorption in the tissues. Evidently, then, the intensity near a needle is very much greater than it is at a distance. For this reason, while the intensity between two needles may be insufficient for the desired reaction, radium necrosis may yet be produced close around them, even when all but a minute percentage of beta particles are excluded. An average of the effective minimum intensities employed with needles is approximately that intensity which is produced at the surface of a sphere of 1 cm. diameter when 1 mg. of radium is placed at its centre. This intensity is here called the "standard needle intensity." It is likely that where, as in teletherapy, the practical difficulties of placing the needles accurately enough to maintain this value are entirely eliminated, then half this intensity produces the same reactions; and experience shows that this intensity must be available at the greatest depths.

A concrete example will serve to compare the four radium arrangements mentioned.

The lesion is supposed to be two inches in diameter and three inches in length, the longitudinal axis being at a depth of 10 cm. To maintain the standard needle intensity with the usual needle technique from 30 to 40 mg. are required. Using surface application to produce half this intensity, 600 mg. would be required; with the radium at 5 cm. from the skin some 1,000 mg.; and if skin-radium distance is increased to 16 cm. the amount would have to be more than 2,600 mg. to maintain that intensity. The economy of the interstitial method is obvious.

The relation between the intensity at a depth and that at the skin is known as the "relative depth intensity." This value for the above lesion, employing needles, is from 24 to 32; employing surface application 1/170; radium at 5 cm. 1/16; and radium at 6 cm. 1/5.6. It is assumed that in the three latter methods only a single point source is employed in each case. It is impossible with them to irradiate the lesion more intensely than the surrounding tissues; indeed, the reverse is the case, but it has been

found that a relative depth dose of 25 per cent. for a depth of 10 cm. may be satisfactorily employed. This is the case when the radium is a point source at a distance of 16 cm. from the skin.

A patient irradiated by gamma rays does not appear to be harmed by them if the intensities are reasonable. On the average the deleterious effects upon the blood are less than might be anticipated, but there are important exceptions, particularly when irradiation includes such organs as the spleen, liver, heart, and bone marrow; moreover, the greater the volume irradiated the greater the effect. In cases where the dosage involves a high intensity and a prolonged time, and where in addition the general health of the patient is bad, the effects upon the blood and metabolism generally are serious, and, indeed, success or failure may be determined by them before the cancer has received its essential treatment. This is true of all radium treatment, but more so with teletherapy than with the usual needling, because, while dosing the cancer equally with either system, the patient absorbs more energy by teletherapy. With needling there is no means of preventing irradiation of the patient while irradiating a cancer, but there seems to be no necessity. With teletherapy the irradiation can within certain limits be restricted to desired fields—that is to say, it is often possible to irradiate the cancer without also irradiating the susceptible organs. This is accomplished by means of screening. The irradiation of a patient will be reduced to a minimum when those rays only which traverse the cancer are permitted to enter the body. In practice, even if an accurate knowledge of the position and extent of growth were available, it would not be possible either to shape the "beam" to fit the growth, or to direct it with the necessary accuracy. It is probable, therefore, that in the case of the lesion already considered a clearance around the growth of at least one inch would be essential. If this be the case the absorption of energy by the growth would represent about 4 per cent. of that in the "beam," and the absorption by the body some 60 per cent. Since the beam itself carries but one-sixtieth of the available radiation, it follows that but 1/15 per cent. of the available radiation is "usefully" employed. With needling some 6 per cent. would be similarly employed and about 50 per cent. absorbed by the body.

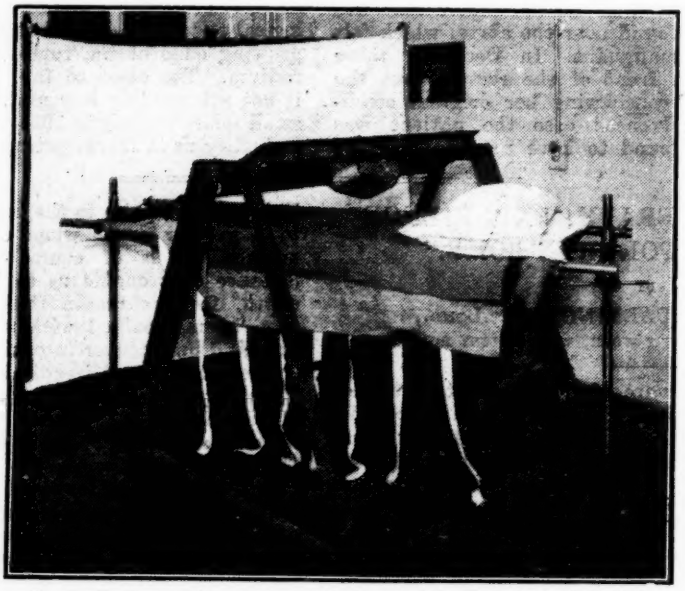


FIG. 1.—Radium teletherapy apparatus in use at the Westminster Hospital.

To obtain the highest value of relative depth intensity from a single point source without increasing the skin-to-radium distance, it is desirable to employ only gamma rays of high frequency. This can be partially accomplished by filtration, because the lower frequencies are more easily absorbed. The filtration should not, however, be increased much beyond the equivalent of 1 mm. of platinum, an amount in general use on the Continent, in the interests of economy. The low penetration of the beta particles prevents any derived directly from the radium having any effect upon deep cancers; they are, in fact, entirely harmful, especially to the skin. For this reason, too, it is undesirable to reduce the filtration below the value already mentioned.

In the interests of economy it is desirable that the radium-skin distance should be less than 16 cm., but at the same time the relative depth intensity must remain at least as high as 25 per cent. at a depth of 10 cm. This can be accomplished by the use of several sources so arranged that while the cone of rays from each passes through a separate area of skin, they all cover the area of the cancer. If this is accomplished the relative depth intensity for each cone can be multiplied by the number of sources to give the relative depth intensity for the whole system. It will, however, be obvious that unless the sources are very widely separated there will be zones of high intensity in the upper layers beneath the skin where the various cones intersect. Fortunately, these tissues are not, as a rule, anything like as susceptible as the skin, so that unless extremely short skin-radium distances are employed it is safe to assume that if the skin has been provided for, so has the intervening tissue.

This multiple source system is known as crossfire. It has been exploited by Sluys, who employs thirteen sources contained in lead "cannon." He is able with its help to obtain a relative depth intensity greater than unity. Unfortunately so great a number of sources necessitates great obliquity of some of them; some valuable intensity is thus lost, and at the same time separate adjustment of each to cover the cancer is necessitated.

It is possible to obtain some crossfire by the use, instead of a point source, of a large flat one parallel to the skin. This system shows to the greatest advantage when the area is large compared with the skin-radium distance. It cannot, however, give such a high value of relative depth intensity as the screened point sources, since rays from it can reach the skin which do not pass through the lesion. Régaud of Paris employs a modification of this system. His radium is distributed in many tubes in the upper angles of a lead box having the side opposite the radium open. By this means he obtains a beam which is restricted approximately to the direction required. It is very large in cross section, but he believes that the intensity at a depth is increased by reason of secondaries generated in the surrounding tissues. The relative depth intensity obtained for a depth of 10 cm. is better than 25 per cent.

Cheval of Brussels employs a working skin-radium distance of 16 cm., at which distance his radium may be looked upon as a point source. He obtains some economy of radium by treating two patients simultaneously. Both Régaud and Cheval employ several "ports of entry," which is to say that the "beam" is directed at the cancer in several positions in such a way that from each position a separate area of skin is irradiated. In this way any given area of skin receives a correspondingly smaller dose. The relation between the depth dose and the skin dose is known as the "relative depth dose," and it has been found that a relative depth dose of unity is satisfactory for a depth of 10 cm. To obtain this value Régaud and Cheval must use four ports of entry. Sluys does not employ several sets of ports of entry, for he obtains a relative depth dose greater than unity with the one set.

In order to compare the economy of radium, it has been assumed that the most efficient method is that which produces at a depth of 10 cm. the greatest intensity. This occurs when the radium is placed on the skin in the position nearest to the lesion. The "relative efficiency" is the relation between the intensity actually produced at the depth and that produced as above by the same quantity of radium. Thus the relative efficiency of Cheval is 15 per cent.—this can, in a sense, be said to be 30 per cent. when he treats two patients—of Régaud 25 per cent., and of

Sluys 28 per cent., the skin-radium distances being respectively 16 cm., 10 cm., and 8 cm.

To measure the intensities obtainable by various "bombs" these intensities may be compared with the "standard needle intensity." Thus the "relative needle intensity" obtained by Sluys using one and one-third grams of radium is 46 per cent., that of Régaud using 4 grams 125 per cent., and that of Cheval using 4 grams 84 per cent.; or if each uses 1 gram they are, in order, 36, 31, and 21 per cent. Evidently, therefore, a carefully designed "bomb" can show considerable advantages on the score of economy. None of the "bombs" mentioned provide adequately for reducing the irradiation of the patient to a minimum—in the cases of Régaud and Cheval because the "beams" are not adjustable and therefore necessarily large, and in the case of Sluys because the source is so widespread that ports of entry cannot conveniently be chosen at will. It is only a matter of design to eliminate these defects.

In addition to giving (*a*) an intensity at a depth of 10 cm. of at least half the "standard needle intensity," (*b*) a relative depth intensity as high as 25 per cent., (*c*) a relative depth dose not less than 100 per cent., (*d*) a filtration of not less than the equivalent of 1 mm. of platinum, (*e*) control of the size of the "beam," a bomb must provide protection of the workers from the rays and a reasonable degree of comfort for the patient. It must also, for hospital purposes at least, be simple to operate.

Protection is usually provided in the form of lead screening round the radium, but during treatment there is always a proportion of the radiation unscreened, and the only really satisfactory protection from this is distance. While the bomb is being adjusted to the patient the radium can be entirely surrounded by lead, and probably no useful purpose is served by increasing the thickness beyond three inches. Régaud does not provide for complete protection by lead during adjustment, but the radium can be simply removed to a distance if desired. Cheval, on the other hand, has his radium so disposed that it can at will be completely surrounded by lead by the movement of a lever. Sluys provides only a very meagre protection, for the reason that he could not conveniently adjust his many "cannon" were they adequately protected.

Comfort for the patients is provided for by these workers by treating them while lying in bed or on comfortable stretchers. Cheval can place his patient either over or under his radium, which avoids the necessity of lying on the stomach, but the immobility of his "bomb" must necessitate rather difficult positions.

Details of the Westminster Hospital Temporary "Bomb."

The apparatus (Fig. 1) was constructed with the object of forming a definite opinion of the relative importance of the various factors already considered, as well as to employ usefully the radium which was originally supplied in the form of ten brass containers 6 cm. in length and 6 mm. in diameter, containing in all just over 1 gram. No attempt was made to design a perfect "bomb," but merely to construct at a minimum expense and in the shortest possible time a means of applying the radium to the patient.

With reference to the diagrams (Fig. 2), a lead box L, some 3 inches in thickness, contains the radium tubes N, spread over its inner upper face. They are held in place by an aluminium plate O, one-eighth of an inch in thickness. The box has passing through it a steel shaft M, which bears, on the upper beam A, G of the steel trestle D, so that it can revolve about its axis. The beam itself can revolve about an axis at right angles to the latter, bearing at F. The trestle is provided with cross bracing K. The patient lies on a steel-framed stretcher C, which can be tilted at B, about its longitudinal axis. It can also be raised by means of the nuts and threads E; ball thrust races greatly reduce the effort required. The entire structure can, of course, be moved in almost any direction in a horizontal plane. The opening of the bomb, which is about 3 inches by 4 inches, is covered by wax P, half an inch in thickness, to absorb secondary beta particles. The total screenage amounts to just over the equivalent of 1 mm. of platinum.

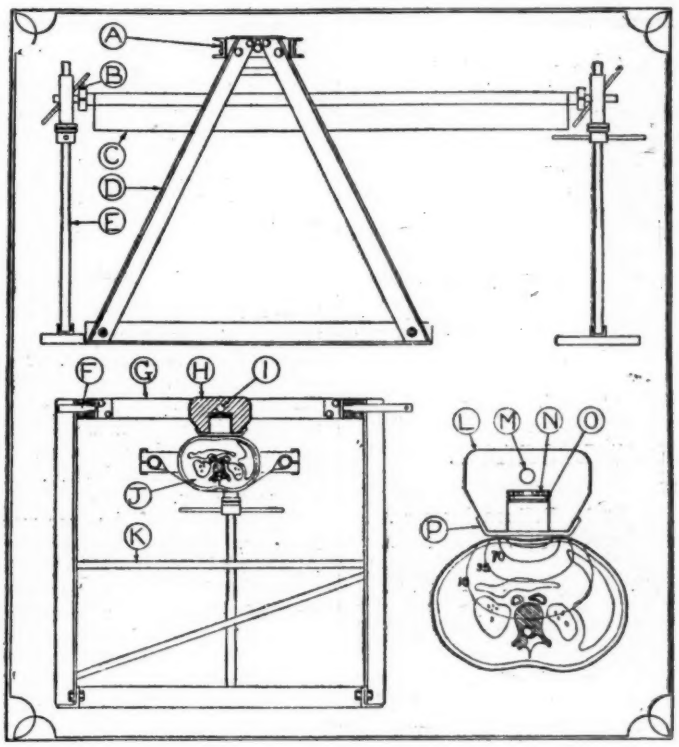


FIG. 2.

Apart from the obvious difficult of getting the patient into position with an arrangement of this kind, it has been found that patients resent more than anything else lying on the stomach and, indeed, are often quite incapable of doing so. Again, a patient cannot remain in one position for more than about two hours at a time twice a day. In this case the total time of treatment (with a gram) might well be two months.

It has been found that even after the patient is in position some considerable time is occupied in adjusting the "bomb" to the patient, even when, as is here the case, the beam is very large. It is likely, therefore, that when there is provision for reducing the size of the beam to a minimum for any given case the exposure of the worker would be excessive unless satisfactory means be adopted to prevent it.

The procedure in the treatment of a patient is the following. Transparent sections of the patient near the position of the lesion are prepared life size, from an atlas, the outline being modified by observation to suit the individual case. An iso-intensity chart of the gamma ray field from the "bomb" is then placed beneath the section so as to cover the estimated position of the growth. It is then possible at a glance to know the relative needle intensity at any point within the irradiated volume. At the same time the best ports of entry can be determined by observation. Not only can the required dose be estimated if the necessary clinical experience is available, but the patient's chance of recovery can be more than guessed at. It is largely with the help of these charts that the necessary value of intensity, relative depth intensity, and relative depth dose have been arrived at.

Experience with the temporary bomb has shown that with 1 gram of radium it will be necessary to work with the radium at a distance not greater than 6 cm. from the skin if the necessary intensities are to be obtained. It is also proposed, in the interests of economy, to treat two patients

simultaneously. In the design for the permanent bomb four point sources are placed approximately at the corners of a square, the radiation from each being restricted to a cone of any desired shape by means of lead screens, each cone, of course, employing a separate area of skin at entry, but all covering the depth point; the distance from the source to the skin is normally 6 cm., but can be increased to any desired extent, and also, if found desirable, reduced to 4 cm. The normal "relative depth intensity" at a depth of 10 cm. being 25 per cent., no difficulty would be experienced in using four ports of entry for the "beam," thus making the relative depth dose 100 per cent. The "relative needle intensity" would then be, at a 10 cm. depth, one-half the standard needle intensity. Radiation will be permitted on both sides of the square referred to, one patient being treated by each beam. The normal axis of the beams will be at about 45 degrees to the ground, and each beam separately adjustable in shape and size with separate screens. The patients will be parallel to one another on different levels, this arrangement permitting a greater latitude of adjustment between one patient and bomb without interfering materially with the adjustment of the other patient. It has been said that adjustment requires some considerable time, so that when two patients are treated the adjustment of one would interfere with the treatment of the other were adequate protection provided for the worker during this adjustment. It is proposed, therefore, to make the necessary adjustments with a dummy "bomb" symmetrically situated with respect to the one containing radium. It will then be possible to perform the adjustment at leisure without fear of harm from the radium, and yet to continue the treatment of the patient already in position. The adjustment effected, the patient will be transferred mechanically from the dummy to the real "bomb," and the necessity for the worker to approach it, except in cases of emergency, will be avoided.

Designs for the permanent "bomb" have been prepared, and will be published in due course.

EARLY GRAVES'S DISEASE.

BY

JOHN H. HANNAN, M.A., M.D., B.CHIR.CANTAB.,

REGISTRAR AND PATHOLOGIST, HOSPITAL FOR WOMEN, SOHO SQUARE.

THE cause of Graves's disease has yet to be found, but there can be small doubt that a connexion exists between the condition of the nervous system and the severity of the symptoms associated with this disease. In many instances a history of sudden shock or a period of prolonged emotional strain can be traced in the period before the onset of the disease.

In recording a case recently under my care I have two objects in view—namely, to lay stress upon the difficulties associated with the diagnosis of early cases, and, secondly, to show that by controlling the nervous symptoms of the syndrome a complete cure may occur, in some instances, without any other treatment. The following is an abstract from my notes of the case, which commence on February 1st, 1928.

A blonde woman, aged 21, consulted me complaining of loss of weight, which had been steadily increasing for some six months, associated with profuseness of menstruation, which had been hitherto regular in nature. In the past few weeks she had felt easily fatigued after the slightest exertion. Constant hunger was complained of, but attacks of diarrhoea and vomiting prevented her from indulging her craving for food. In the past fortnight she had had two attacks of fainting, in which she was unconscious for some hours.

On talking over the history with her father, I ascertained that two colleagues had diagnosed her condition as being due to early tuberculosis, and based their diagnosis on a history of night sweats and the progressive loss of weight. On examination I found that she was markedly emaciated; the skin was moist—in fact, she was perspiring freely, a phenomenon which, she said, occurred with distressing frequency. The pulse was feeble, and the rate varied between 120 and 140 beats per minute at different periods during the examination.

A thorough general examination was made, particular attention being paid to the condition of the lungs and the pelvic organs, with, however, negative results. On careful cross-examination I ascertained that the hot sweats occurred during the day as well as during the night. It became obvious during the examination that the girl's nervous system was profoundly disturbed, and that she was extremely restless; a fine tremor of the hand was constantly present.

Bearing in mind the clear syndrome presented by the foregoing symptoms, I made a provisional diagnosis of Graves's disease, and proceeded to look for the classical signs of this disease. The thyroid gland was found to be but slightly enlarged, not more so than commonly occurs in young women. Exophthalmos was absent; von Graefe's sign was not present. Stellwag's sign (widening of the palpebral fissure caused by a spasmodic retraction of the upper eyelids) was, however, present. Goetsch's test (reaction of the pulse rate and blood pressure to subcutaneous injections of adrenaline) was applied, and found to be positive. The urine was normal. The patient's weight was 7 st. 10 oz.

Finally, the patient was closely questioned, and I ascertained that she was greatly worried over her occupation as a typist, and that the symptoms of which she complained had come on shortly after obtaining employment in this capacity. A basal metabolism estimation was suggested to the father, but consent for this was not given owing to the extreme state of nervous exhaustion which my examination had produced.

I have, for some time, been engaged in investigating the syndrome of the menopause, and I have shown elsewhere that the change of life is associated with many symptoms which are present also in Graves's disease. In particular, I have shown[1 2 3] that women at the menopause have an increased sensitiveness to adrenaline injections similar to that exhibited by cases of Graves's disease in general and the case under consideration, this adrenaline sensitiveness forming the basis of Goetsch's test for early exophthalmic goitre. Furthermore, I have also published evidence[4] that the disturbance of the nervous system in women at the menopause is readily controlled by small doses of sodium veronal. I therefore prescribed a simple mixture, in this case consisting of sweetened water (to disguise the bitter taste of the sodium veronal) and sodium veronal, in such a dosage that the patient would take 1 grain of sodium veronal three times daily in a tablespoonful of the mixture. She was then instructed to report weekly.

The progress of the case was dramatic. On August 28th, 1928 (some seven months after commencing treatment), her weight had risen to 10½ st., all her symptoms, including the menorrhagia, had disappeared, and her pulse rate was now 65 beats per minute and of good tension. At the present time she is entirely normal and back at work.

It is interesting to note that some four weeks after seeing me for the first time exophthalmos became obvious and von Graefe's sign was positive. After this time, the exophthalmos became quickly better and von Graefe's sign disappeared. Stellwag's sign, which was the first to appear, was the last to disappear—namely, at four months after commencing treatment.

Several points of interest arise on considering this case. In the first place, we have the confusion which arose between the diagnosis of early tuberculosis and early Graves's disease without exophthalmos and without marked enlargement of the thyroid. In particular, I would draw attention to the importance of Stellwag's sign in these cases, which others, besides myself, have found to be present before exophthalmos becomes a feature of the syndrome. Furthermore, I would suggest that Goetsch's test might be more frequently employed with advantage in cases of this nature.

With regard to treatment, I feel that more attention should be given to the control of the nervous symptoms associated with Graves's disease than is done at present, and suggest that all patients showing evidence of this syndrome should be given a course of sedative treatment with sodium veronal before more drastic measures are undertaken.

REFERENCES.

[1] *The Flushings of the Menopause*, Baillière, Tindall and Cox, London, 1927. [2] *British Medical Journal*, July 2nd, 1927, p. 14. [3] *Endocrinology*, 12, 1, 1928, 59-64. [4] *Practitioner*, October, 1927.

THORACOSCOPY AND CAUTERIZATION.

BY

BERNARD HUDSON, M.A., M.D.,

MEDICAL SUPERINTENDENT, VICTORIA SANATORIUM, DAVOS-PLATZ,

AND

G. MAURER, M.D.,

MEDICAL SUPERINTENDENT, GUARDAVAL SANATORIUM, DAVOS-DORF.

IN 1910, for the first time, Jacobaeus divided pleural adhesions by the galvanic cautery under the guidance of endoscopy. The results attained by earlier workers were far from encouraging, and even the procedure of Jacobaeus is not free from objection. That his operation is justified is clear from the results it has achieved; we criticize it, however, on the ground that after the pleural adhesions have been severed the incidence of tuberculous empyema, even of mixed bacterial infections, is very high. According to Jacobaeus and others who have used his operation, 10 per cent. of cases are followed by mixed bacterial empyema and 36 per cent. by tuberculous exudates, of which 15 per cent. are serious. Kremer and others have recently published statistics showing a somewhat smaller proportion of such infections of the pleural cavity. On the other hand, when there are no complications, improvement is obtained by means of this operation—according to Jacobaeus in 66 per cent. of cases, and according to Kremer in 63 per cent.

Recently one of us (G. M.) has elaborated a method of dividing pleural adhesions, especially those of considerable size, by means of a combination of the galvanic cautery with a prophylactic coagulation by diathermy. In this writer's series of cases only 1 per cent. with mixed bacterial empyema and 4 per cent. with serious tuberculous exudates have been observed; this represents a substantial reduction in the incidence of a dangerous complication.

The prophylactic diathermy is valuable for the following reasons. After the induction of artificial pneumothorax in cases of pulmonary tuberculosis the pleural surfaces are separated, adhesions between them being drawn out into the form of bands, which may consist either of lung tissue or of fibrous tissue, or, as is usually the case with adhesions of any size, of both. It is necessary to sever each adhesion as closely as possible to its parietal end and thus to prevent damaging the bronchial system and the lung tissue, and opening up the walls of cavities which may have been drawn into the adhesion. This procedure, which requires a considerable amount of technical skill, may be rendered very difficult by the rich supply of vessels usually found in the parietal portion of the adhesion, and, through the thoracoscope, seen clearly passing from the parietes into the adhesion. The danger of haemorrhage can, however, be almost completely eliminated by thoroughly coagulating the thoracic part of the adhesion with the diathermic cautery before severing it by means of the galvanic cautery. Attempts have been made to break down adhesions by the diathermic cautery alone; it has been found, however, that a current which is powerful enough to sever adhesions is likely also to produce dangerous internal reactions; indeed, in cases where the stumps are rather short the resulting necrosis may even reach the lung parenchyma, and eventually lead to the dreaded complication of empyema. We believe that diathermy used only to secure coagulation of vascular adhesions is a valuable procedure which lowers the incidence of complications and opens the way to still further development of Jacobaeus's original operation. The following case may serve to demonstrate the possibility of this combined method.

The patient, a man aged 24, suffering from severe tuberculosis, had a daily rise of temperature up to 102° F., and brought up each day about 2 oz. of muco-purulent sputum containing tubercle bacilli and elastic fibres in large quantities. The following radiographic appearances were observed after the induction of artificial pneumothorax on the left side. Right side: a light veiling was seen in the upper part, and in the lower part there were numerous small soft shadows. Left side: the apex was diffusely clouded, the lung being apparently firmly fixed by adhesions.

Five months after the induction of pneumothorax an attempt was made to divide the adhesions on the left side by the combined method above described. Through the thoracoscope the pleural cavity was seen to be strongly vascular, the intercostal spaces and rib demarcation being clearly visible. The apex of the lung was fixed chiefly in the neighbourhood of the second rib by an adhesion about the thickness of a little finger. A thin transparent band was seen stretching to the front of the chest, and two others, each about the thickness of a lead pencil, stretched upwards and forwards from the lung to the chest wall. The patient stood the operation very well, having practically no reaction. His temperature gradually settled down, becoming normal a week later, and he showed great improvement in general health. Three months later the cough and sputum had disappeared and a radiograph showed healing of the lesions on the right side and total collapse on the left side.

In this case, considering the technical difficulties involved in breaking down the coarse adhesions, complete thoracoplasty might have appeared to be the operation of choice; on account of the bilateral disease, however, and of the poor general condition of the patient, the plastic operation was ruled out, and the ultimate result in this case has proved to be very good.

Memoranda:

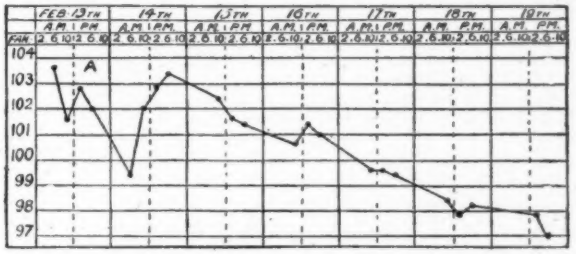
MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF PNEUMONIA BY CONVALESCENT SERUM.

THE following description of a case of influenzal pneumonia treated with convalescent serum is given in the hope that it may stimulate the application of similar treatment to further cases and so enable conclusions to be drawn as to the value of the procedure.

During the week ending February 2nd, a female patient, aged 34, had a sharp attack of influenza. After the temperature had been normal for a day it rose rapidly again with the development of central influenzal pneumonia. The sputum was rusty and blood-stained; signs were indefinite but suggestive of mainly left lower lobe involvement. Throughout the attack pleurisy was absent, and possibly on this account the respiration rate was little affected. At the end of the seventh day a rapid lysis set in and the temperature dropped to normal in thirty-six hours, with the usual amelioration of symptoms (February 11th).

While the patient's temperature was falling (February 10th) her child, a boy, aged a year and eleven months, became ill, and in two days (February 12th) he was obviously suffering from pneumonia. On February 13th, at 6 p.m., two days after his mother's temperature had reached normal, he was given 4 c.cm.



A=4 c.cm. Convalescent pneumonia serum.

of her serum subcutaneously, the blood having been taken four hours previously. He had been delirious during the day, and for three or four hours after receiving the dose of serum he had attacks of wild delirium separated by periods of disturbed sleep. About 11 p.m. he became quiet and slept for the rest of the night. In the morning his temperature was 99.4° F., a drop of nearly three degrees, his condition seemed much less toxic, and he began to take fluids with avidity. Though his temperature rose to 103.4° the same evening, it began to drop from that point about a degree every day, reaching normal on February 18th. The respiration rate remained 50-60 till the temperature had reached normal, but the general condition never caused as much anxiety as it did before serum was given.

No bacteriological examinations of sputum were made, but it was concluded from the type of temperature in the case of the mother, and the absence of any tendency for it to recur after the rapid lysis, that infection was mainly pneumococcal.

A. MCLAREN FERRIE, *M.C.*, M.B., Ch.B.,
DONALD E. MORLEY, M.D., B.S., D.P.H.

St. Helens, Lancs.

FIBROMA OF THE URINARY BLADDER.

A FIBROMA of the urinary bladder is such a rarity that it seems advisable to place the notes of such a case on record.

The patient, a married woman of 28, was admitted to the Royal Waterloo Hospital, under my care, complaining of (1) acute pain before and during micturition (duration of symptoms eleven months); (2) partial loss of bladder control (duration five months). The first symptoms noticed (about one year before her admission into hospital) were suprapubic colicky pains and frequency of micturition. The latter, which at first was intermittent, had become progressively severe. The frequency of micturition, which was accompanied by pain, increased from eight to twenty times a day, and from three to six or eight times at night. During the last five months there was partial loss of bladder control. There was no history of haematuria, rigors, or pains in the region of the kidneys. She had little or no sleep, and she was rapidly losing weight. The patient had had no children, no miscarriages, and menstruation was normal in every way. There was no history of gonorrhoea or syphilis, or of any serious previous illness.

The patient was a thin, pale, nervous woman, and examination showed that the heart, lungs, and nervous system were normal. The kidneys were not tender or palpable. There was no evidence of distension with overflow. Three ounces of urine were withdrawn for a catheter specimen examination, and this showed no abnormal constituent apart from a slight excess of mucus. A rectal examination was negative; and per vaginam the uterus was felt to be anteflexed, and of the usual size and shape. On bimanual examination a circular tumour, about the size of a golf ball, could be felt in the bladder and separate from the uterus. On cystoscopy the tumour was seen to be covered with healthy mucous membrane, and to be lying three-quarters of an inch above the right ureteric orifice in the right antero-lateral wall of the bladder. Bilateral ureteric catheterization proved the kidneys to be healthy. A cystogram was taken, but this did not show any gross "filling defect."

Operation.—Under a general anaesthetic the bladder was distended with 8 oz. of warm boric lotion, and the patient was placed in the Trendelenburg position. An extraperitoneal exposure of the bladder was obtained through a suprapubic incision, and the viscus opened in the middle line. On retracting the walls of the bladder a hard submucous tumour was found on the right antero-lateral wall. The mucous membrane over it was incised and the whole tumour was shelled out of its bed. The rent in the mucous membrane was closed with 00 non-chromicized catgut suture, and the bladder was drained through a small suprapubic tube.

Description of Tumour.—The tumour was white, encapsuled, almost circular, hard, elastic, and presented all the naked-eye appearances of a fibroma. The surface was thrown into irregular folds, and, on section, whorls of fibrous strands could be seen.

The microscopical report of the sections showed the tumour to be a "pure" fibroma. Weight: 320 grains. Size: maximum diameter 5 cm., minimum diameter 4 cm., maximum circumference 11 cm., minimum circumference 9¾ cm.

The patient made a good recovery; she passed urine per urethram on the fifth day; was allowed out of bed on the ninth day; and the wound was healed on the seventeenth day after the operation.

On discharge she had complete control of the bladder, and there was no pain or frequency of micturition. Cystoscopy performed two months later showed the bladder to be normal. She was then rapidly putting on weight, and looking fit and well.

RODNEY MAINGOT, F.R.C.S.,
Surgeon, Royal Waterloo Hospital.

PREGNANCY FOLLOWING AMPUTATION OF THE CERVIX.

THIS interesting condition occurred in a multipara, aged 34, who gave the following history.

She had had an amputation of the cervix performed eighteen months previously and followed by regular but painful menstrual periods. In July, 1928, she became pregnant, and nothing untoward occurred until February 16th, 1929; she was then seven months pregnant, and her membranes were said to have ruptured. Drainage of liquor continued during the following week, but she did not complain of pains until 1 a.m. on February 22nd. The pains continued, and she was admitted to hospital at 12.50 a.m. on February 23rd, because she was making no progress, and no dilatation could be felt by her doctor.

Abdominal examination on admission indicated a vertex presentation; the head was well engaged, and foetal heart sounds were easily heard. On vaginal examination, much to one's surprise, no os could be found. There was much scar tissue, which was very friable, the patient bleeding easily; the head was well down, and the lower uterine segment was thin and bulging. The only obvious spontaneous termination seemed to be rupture of the uterus by the head pushing its way through the lower uterine segment. Caesarean section was therefore performed and a living child of 5 lb. weight was delivered. A tube was passed through the lower uterine segment into the vagina to drain the lochia. The patient was pyrexial for about three weeks following delivery, after which she made an uninterrupted recovery.

This case is interesting in that menstruation had occurred regularly and liquor amnii had drained away in spite of the fact that the scar tissue had seemingly obliterated the external os.

Preston Royal Infirmary. H. W. DAVIS, M.B., Ch.B.

Reports of Societies.

RADIUM TREATMENT OF UTERINE CANCER.

AN open meeting of the London Association of the Medical Women's Federation was held at the British Medical Association House, Tavistock Square, on May 4th, when a report of the Cancer Research Committee of the London Association on three years' work on the treatment of uterine cancer with radium was presented.

Dr. FRANCES HUXLEY, from the chair, reminded the gathering that the Cancer Research Committee was formed in 1924, although it did not begin clinical work until late in the following year. More than three years' experience had now been gained as to the application of radium in cancer of the uterus. The report to be presented was really a continuation of one which was made rather more than a year ago (*British Medical Journal*, April 14th, 1928, p. 641), but the committee now had further encouraging results to communicate, and was looking forward to fresh developments.

Miss M. CHADBURN said that the work on cancer of the uterus treated by radium took place between October, 1925, and March, 1929. The committee first spent a considerable time in the general study of radium treatment, especially as carried out in Continental clinics, in deciding upon the technique and in designing the applicators, and in collecting the necessary funds to obtain the loan of the radium. The actual clinical work had been carried on up to the present in four hospitals—namely the South London Hospital for Women, the Elizabeth Garrett Anderson Hospital, the New Sussex Hospital for Women and Children at Brighton, and the Royal Free Hospital. The actual number of clinicians working in co-operation was eighteen. Each hospital was allocated its day for the use of the radium available, the radium being conveyed to and from the hospital by an officer appointed for the purpose. All the eighteen clinicians had been using the same technique and the same recording and follow-up systems. The work, although scattered over four centres, had been co-ordinated, because, in the first place, the technique was settled by the committee, which included representatives from each hospital, and by the clinical subcommittee, which included all the medical women engaged in the research; and, in the second place, the whole work was supervised by one research officer, a senior member of the profession and an experienced gynaecologist, Dr. Hurdon, who had given her whole time to the work of superintending the radium applications at the different centres. At first most of those concerned agreed to treat inoperable cases only. The surgeons at that time had more faith in operation than in radium, but subsequently more and more operable or borderline cases had been treated. Those concerned were now unanimous in feeling that the work could most advantageously be centralized in one hospital. The result was that the Marie Curie Hospital (named after the discoverer of radium), at Swiss Cottage, was expected to be opened in September of this year. Here it would be possible to work without the disadvantage of a scattering of centres, and the work might be widened beyond treatment of the uterus. Unfortunately, the hospital would have to make its own way financially; there would be private wards, but an appeal must be made to a generous public.

Dr. HURDON then gave a description of the cases treated, and some eight or ten of the patients, three of whom had come from Brighton, were presented to the audience as living witnesses to the efficacy of the treatment. These had been mostly cases of squamous carcinoma of the cervix, the symptoms having lasted for several months. The period which had elapsed since treatment was in only one case less than three years. A few of the women were above 60, but the average age would be from 45 to 50. Their

condition when treatment began was described as operable or borderline. Dr. Hurdon showed some tables giving the total cases treated since 1925. By far the greater number —191—were cases of cancer of the cervix; of these, 130 were still living. Operable or borderline cases accounted for about 21 per cent. of the whole. Recurrences were found to be very much more frequent during the first year following treatment; in subsequent years these diminished, and in the fourth and fifth years were very few. She thought the value of radium treatment had been definitely demonstrated. It had to be remembered, of course, that many of the patients applying were already in a very advanced condition.

Miss HELEN CHAMBERS gave a description of the technique employed. She said that it was based upon Heyman's technique at Stockholm, modified by the results of experimental work done in this country, especially in the laboratories of the Middlesex Hospital under Professor Sidney Russ, to whom those concerned in this research were greatly indebted. She showed slides illustrating the disposition of the radium tubes. Usually two tubes were placed, tandem-wise, in the intrauterine position, and two or three applicators in the vaginal vault. She reminded the meeting that, satisfactory as many of the results appeared to be, it was still possible only to cure—in the sense of a period of years free from symptoms—twenty out of a hundred patients applying; so that there was a great deal of room for improvement and for the devising of supplementary methods of treatment, notably *x* rays.

Dame LOUISE MCILROY emphasized the value of this joint work by the association. Three years ago some medical women from this country went over to Paris and saw Régaud's clinic, where they were so impressed by the work done with radium that they—she at any rate—gave up operating for carcinoma of the cervix in favour of radium therapy. She had also applied radium treatment in carcinoma of the body of the uterus with good results. The success of radium in this field was not to be doubted, and it was possible that in the future, with improved technique and better facilities, carcinoma of the breast might be dealt with similarly. Lately at the clinic in Brussels she with others had been impressed by the treatment of cancer of the rectum. But although this work undertaken by the London Association had produced satisfactory results beyond expectation, she thought it was a wise policy not to rush into print about it or to make very much of it for the present, waiting at least until the end of a five-year period. One eminently satisfactory feature with radium was the absence of operative mortality, which had the indirect value that it made women more likely to come early for advice when they knew that they had not the risk of operation hanging over their heads.

Miss ELIZABETH BOLTON forwarded some notes on cases from the Elizabeth Garrett Anderson Hospital. The number of cases of cancer of the cervix treated during three and a half years was 48, and 31 remained alive. Practically all were inoperable, though a few might be described as borderline. Advanced cases treated during 1925 were still living.

Miss LOUISA MARTINDALE said that this report was forthcoming evidently at the psychological moment when there was a movement all over the country for greater supplies of radium. More knowledge was necessary with regard to supplementary methods, especially intensive *x*-ray therapy. She had lately returned from a tour of Continental clinics —Frankfort, Freiburg, Geneva—and everywhere she had found that the practice of operating on the cervix was being given up in favour of radiation methods. She had been particularly struck at Frankfort by the provision for intensive *x*-ray therapy.

Dr. MALCOLM DONALDSON congratulated the London Association very heartily on the magnificent work it was doing, and especially on the team spirit displayed. He deplored the fact that at St. Bartholomew's, while they had the team, they lacked the beds. Lady BARRETT and others added their congratulations, and Dr. HELEN CHAMBERS, in reply, after acknowledging the willing co-operation of the surgeons, remarked that, after all, medical women, in taking up this field of endeavour, were only performing a simple duty to their sex.

INDICATIONS FOR SPLENECTOMY.

AT a joint meeting of the Sections of Surgery and Medicine of the Royal Society of Medicine, on May 1st, with the president of the Section of Surgery, Sir HOLBURT J. WARING, in the chair, a discussion was held on the indications for, and the results of, splenectomy.

Dr. HUGH THURSFIELD, opening for the Section of Medicine, reminded the meeting that seventeen years previously he had opened a similar discussion at a time when the operation appeared to be a daring innovation. The advance of surgical technique and of the experimental side of surgery had since that time led to a considerable increase in the knowledge of what could be done by splenectomy, but exact knowledge of the functions of the spleen remained almost the same as it was thirty years ago. It was known that the spleen was somehow concerned with the processes of digestion, and also with acute infective processes, but there was no other statement about the functions of the spleen which had not been challenged. It had been established that the spleen as an organ did not represent all the splenic tissue in the body, and hence splenectomy could not remove all splenic tissue. It was also known that removal of the spleen for any sort of condition produced no permanent changes which could be constantly identified; there was no permanent effect on blood formation, and the platelets, although raised at first, if low before operation, were soon at the old level. Dr. Thursfield said that splenectomy was a modern operation, the first recorded example having been performed by Spencer Wells in 1866; the patient was still living. There were three medical conditions for which splenectomy was advised almost as a routine; the first of these was splenic anaemia, which was defined as a chronic disorder with primitive splenomegaly, reduction in the red cells without the appearance of nucleated forms, a low colour index, leucopenia without myelocytes, and a diminished or normal fragility of the red blood corpuscles. Dr. Thursfield thought that the term Banti's disease ought not to be employed, since it was doubtful whether the condition occurred outside Florence. It was agreed that removal of the spleen was indicated for splenic anaemia as soon as possible after diagnosis, and by this means it was possible to restore a chronic invalid to a useful life. The second condition in which splenectomy gave brilliant results was congenital acholuric jaundice, in which it resulted in a cure, and the fragility of the red cells became normal. The third condition was the thrombocytopenic type of purpura haemorrhagica, in which it was believed that the blood platelets were restored to their normal quantities; although recent work had shown that this increase in the platelets was only temporary, the operation certainly stopped the haemorrhages. It was beginning to be held that the platelets played no part in the occurrence of the bleeding, but in any case splenectomy produced cure in about 80 per cent. of the chronic cases. Apart from these three conditions opinion was not so unanimous. In acquired cases of acholuric jaundice the operation of splenectomy by itself was not so effective as in the congenital cases, and any focus of sepsis must be carefully looked for and eliminated. The fragility of the corpuscles in these cases was not necessarily affected by the operation. Other conditions for which splenectomy had been performed included pernicious anaemia, a procedure now rendered unnecessary by the liver treatment, and cirrhosis of the liver. There were many forms of this condition, some of them cryptogenetic; it was known that removal of the spleen had a great effect on the liver in such conditions as splenic anaemia, where a cirrhotic process might be brought to a standstill. Hence, in every case of cirrhosis of the liver the question of splenectomy ought to be considered. At the Mayo Clinic 35 patients with cirrhosis of the liver had had their spleens removed, and of this number ten were alive and nine in good health. It appeared probable that in splenectomy there was a new weapon for combating cirrhosis of the liver, although it could not be used for advanced cases with ascites. Lastly, Dr. Thursfield mentioned the use of splenectomy for Egyptian splenomegaly, and for certain cases of myelocytic leukaemia.

Mr. A. J. WALTON, for the Section of Surgery, said that the surgical problems connected with splenectomy were difficult; it was first of all essential to have some sort of

classification upon which to work. It was also difficult for the individual surgeon to have great experience of all the conditions for which the spleen might be removed. Mr. Walton began with injuries of the spleen, including spontaneous and traumatic rupture; in this country the latter was the more common, and it was noticeable that the amount of trauma might be very slight. Torsion of the spleen also occurred, but was seldom diagnosed. Local lesions of the spleen included cysts and tumours. Hydatid cysts were most common in those countries where this infection was frequent, but in this country dermoids and other neoplastic cysts were commoner. Of tumours of the spleen fibrosarcomata were the commonest, producing large painful growths. There were also tumours due to overgrowth of the lymphoid elements, some of which it was difficult to distinguish from Hodgkin's disease. In the speaker's experience, if the lymphatic glands in the abdomen were found to be enlarged during the splenectomy the outlook was poor. The inflammatory lesions of the spleen were acute or chronic. A localized abscess was important surgically, producing a tumour with pain and pyrexia; if seen early, splenectomy was possible. In the later cases drainage and marsupialization were necessary. Chronic cases were more difficult, for one found patients with large spleens and all the symptoms of splenic anaemia. These cases had usually a pyogenic focus, which had to be cleared up. Mr. Walton included splenic anaemia in this group of chronic inflammations, and he regarded this condition as an early stage of Banti's disease. The results of splenectomy before liver changes had occurred were good, and there was some evidence that the liver might improve after operation if it was already affected. He did not think there was much evidence at present to support splenectomy as a therapeutic measure in cases of cirrhosis of the liver. The operation was not indicated in Hodgkin's disease; in such diffuse disorders as malaria, tuberculosis, and syphilis splenectomy might be called for in exceptional cases. In cases of secondary polycythaemia with much enlargement of the spleen its removal was of some value. In the next group of general blood diseases Mr. Walton placed first aplastic anaemia, for which splenectomy was not advised. With regard to pernicious anaemia, he discussed the possibility of cases of secondary anaemia due to bleeding gastro-jejunal ulcers passing into the pernicious type, especially if gastrectomy had to be performed. In cases of haemolytic jaundice splenectomy was not always necessary if the patients were not seriously troubled by the malady. With regard to purpura haemorrhagica, it was not a sound rule to remove the spleen because the platelets were decreased. It was much more important to consider the problem of whether the removal of the spleen would be dangerous if the platelets were normal, because of the risk of thrombosis. Splenectomy in Gaucher's disease should only be undertaken to relieve symptoms; it could not cure the disease. In cases of leukaemia the results did not appear to justify the operation. Discussing the general considerations with regard to splenectomy, Mr. Walton said that a platelet count and a white cell count were important; the size of the spleen was also of some help, for the bigger it was the more evidence there usually was of its destructive activities. He used a double incision, a left pararectal, with an extension carried up obliquely in the line of the intercostal nerves; the first essential was to cut down to the vessels and ligature them.

Dr. A. F. HURST thought that purpura haemorrhagica was a misleading name, since all purpuras were haemorrhagic, and many cases of this disorder had no purpura. He preferred the term "haemorrhagic diathesis," which manifested itself by a tendency to bleed, mostly into the skin, but also from the stomach, bowel, uterus, kidneys, and nose. The first haemorrhages might occur from one of these sites, and not into the skin at all. In obscure cases of gastric haemorrhage it might be well to examine the blood; if the platelets were reduced or the bleeding time prolonged splenectomy should be considered. Essential haematuria might also prove to be the same sort of disorder, and some cases of uterine haemorrhage also came into this category. In late cases of splenic anaemia with cirrhosis of the liver and ascites the mortality after operation was higher, but Dr. Hurst still thought that splenectomy should be performed. He mentioned one case of syphilitic infection where no improvement occurred until the spleen was removed.

Dr. F. PARKES WEBER said he had never recommended splenectomy, although he had seen cases in which it had been performed, or might have been performed. He had recorded a family with inherited haemolytic jaundice in which the jaundiced members for the most part enjoyed good health. During the strain of the war one of the younger members became very ill, and the spleen was removed. The others still enjoyed good health, and Dr. Parkes Weber was uncertain as to what advice he ought to give. He had seen cases of purpura haemorrhagica in which splenectomy was contemplated, but in spite of this he was still uncertain when the operation should be performed and in what kind of case. With regard to the pathology of the spleen, he thought that in acholuric jaundice the spleen caused excessive destruction of abnormally fragile blood corpuscles; in purpura it destroyed or counteracted the abnormal thrombocytes. In both diseases there must be some other factor present, however, possibly connected with lipoid metabolism, and Dr. Parkes Weber urged that the blood cholesterol should be determined in all cases of splenomegaly. In Banti's disease he had seen a case come to necropsy with extensive thrombosis of the mesenteric and portal vessels, and he felt that splenectomy would have precipitated a fatal issue. He had seen one case of lymphatic leukaemia in which great benefit had been experienced from removal of a bulky spleen. In conclusion, Dr. Parkes Weber emphasized that an enlarged spleen might be serving a useful purpose.

Dr. A. KNYVETT GORDON remarked that in most medical conditions submitted to splenectomy the diagnosis had to be determined by clinical pathology. He had reached certain conclusions with regard to splenectomy, especially concerning its value in thrombocytopenic purpura. Whenever spontaneous bleeding occurred it was important to examine the spleen and the platelets. Any septic focus must also be investigated, and if an organism was found its pathogenicity must be tested. If the platelets were reduced then the spleen should be removed irrespective of its size or the site of the bleeding. Splenectomy should also be performed in cases of splenic anaemia in order to prevent the development of Banti's disease, but it should not be employed in any case with a leucocytosis.

Mr. R. E. KELLY said he had removed the spleen for almost all the classical conditions, and he had seen fragility of the splenic vessels in many cases at operation. He used as his incision one passing horizontally across the abdomen; this gave good access. He thought that it was not strictly true that patients with congenital acholuric jaundice were ever really well; during the bouts of illness from which they suffered the spleen often became larger. With regard to splenectomy and its effect on the platelet count, he showed charts illustrating how this count was increased after operation, but generally came down again, although in two cases the increased platelet count was maintained for a long time. There was a danger of thrombosis when the platelets were increased after operation. From observations on the blood in the splenic artery and vein it was ascertained that the spleen caught and held one platelet in every four taken to it.

Dr. P. MANSON-BAHR explained that Egyptian splenomegaly was part of a general infection; the enlargement of the spleen in these cases was not easy to understand, and was probably secondary to changes in the liver. The blood picture was like that of splenic anaemia, and while the parasites which caused the disease were killed off by antimony tartrate, it was also necessary to excise the spleen. It had been advanced that the removal of the spleen was simply a way of getting rid of redundant tissue in such cases, and was purely mechanical in its beneficial results.

Sir HOLBURT WARING thought that if adhesions were present these must be dealt with first before it became feasible to get at the splenic vessels in splenectomy.

Dr. THURSFIELD, replying, emphasized the connexion between enlargements of the spleen and cirrhosis of the liver as brought out in the discussion, especially in certain tropical conditions. He felt that splenectomy ought to be

a more common operation in such cases. Mr. WALTON, replying, mentioned that in many cases of congenital acholuric jaundice there were gall-stones as well. If pure pigment stones were found in a case of gall-stones the fragility of the red blood corpuscles ought to be investigated.

DIAGNOSTIC PROBLEMS.

AT a meeting of the Devon and Exeter Medico-Chirurgical Society at the Royal Devon and Exeter Hospital on April 25th, with Dr. F. A. ROPER in the chair, Dr. ROY CRAIG showed a girl, aged 17, with symptoms of early disseminated sclerosis.

Dr. Craig said that the prominent subjective symptoms in this case were giddiness and difficulty in walking. There was a slight degree of nystagmus, and the left disc showed some pallor and congestion. Tremor was noticeable in the right hand. The plantar reflex was extensor on the right side, and both patellar reflexes were greatly exaggerated. Ankle clonus and spasticity were absent on both sides. Dr. Craig remarked that the initial symptoms were compatible with a diagnosis of "hysteria," but these were followed by unsteadiness of gait and intention tremor, with much variation in their intensity from time to time. He concluded, therefore, that the evidence indicated the presence of a pyramidal lesion, where the pressure of the axon was not yet complete—a lesion which should not be regarded as beyond hope of cure. The pressure required treatment, but the variation in symptoms showed that there was as yet no actual destruction. Intramuscular injections of bismuth given in the intervals between intravenous injections of the arsenical compounds answered best in these cases. Treatment by malaria infection had proved of doubtful value in disseminated sclerosis.

Dr. ROPER said he had found disseminated sclerosis of rare incidence in the South-West; the majority of the cases occurred in young girls. The disease seemed to be more common in the industrial centres in the North of England. Dr. W. GORDON remarked that hysteria and disseminated sclerosis afforded an excellent example of the "coupled diagnosis"; neither of these conditions should be considered as being present without the possibility of the existence of the other being borne in mind.

Dr. CRAIG also showed to the meeting, for comparison, a boy, aged 8, who was a cretin under treatment, and a girl, aged 2¾, with Mongolism. As points in the differential diagnosis, Dr. Craig demonstrated the restlessness, the protruded tongue, the shuffling, the small head, and the groove in the palm of the hand—all very marked in this case of Mongolism. In the cretin shown to the meeting there were the typical facies with sunken bridge of the nose, the dry skin, lethargy, and the backward mental development, as opposed to the definite mental deficiency in the Mongol.

Dr. F. A. ROPER showed a girl, aged 16, known to be the subject of diabetes insipidus since the age of 4, when she was found to have an inordinate thirst. Up to the present time all treatment had failed to stem a polyuria ranging from 8 to 12 pints in the twenty-four hours. The girl was undersized, and menstruation had not yet appeared, although the onset of puberty was otherwise indicated. She had complained of severe headaches from the age of 15, and there had been two recent attacks of an epileptiform character. Beyond the very low specific gravity, relative to the polyuria, the urine showed no abnormality. Radiographs of the skull were negative as regards abnormality in the pituitary fossa. Dr. Roper had admitted the girl to hospital quite recently, and it was too early yet to estimate the value of pituitary injections, which were being given *pari passu* with routine investigation of the urine.

Dr. CROCKFORD cited the case of a middle-aged woman suffering from mammary carcinoma who suddenly developed symptoms of diabetes insipidus, doubtless from a secondary deposit in or near the pituitary body. Dr. W. GORDON mentioned the case of a woman, aged 50, where the alternative diagnosis of renal cirrhosis was negatived. Pituitary injections had been considered of diagnostic value at one time. As regards the pathology, one possibility was a basal meningitis of syphilitic origin.

Varieties of Aneurysm.

Dr. R. V. SOLLY showed pathological specimens of three recent cases of aneurysm.

The first was a saccular aneurysm of the ascending aorta from a man, aged 49, with pressure symptoms involving the left lung. The chief interest in this case arose from the fact that the man had carried on his work as a postman without apparent distress, and had not consulted a doctor for fifteen years. He collapsed suddenly when going up a hill, and became deeply cyanosed and unconscious. Subsequently he made a partial recovery, but pressure symptoms on the left lung remained constant until his death two months after admission to hospital.

In the second case there was a dissecting aneurysm of the abdominal aorta. A married woman, aged 49, was admitted to hospital complaining of vomiting after food, and of feeling a lump in the stomach. She was found to have an aortic diastolic bruit, and a pulsating abdominal tumour to the left of the umbilicus. The blood pressure was 242/120. The Wassermann reaction was negative. The necropsy revealed hypertrophy of the left ventricle, and atheromatous changes in the aorta and on the mitral aortic valves. There was also marked thickening of the abdominal aorta down to the common iliac bifurcation.

The third case was one of aneurysm of the descending thoracic aorta, which had burst into the left side of the thoracic cavity. A man, aged 46, was admitted to hospital for a suspected pleural effusion; he had complained of pain in the right side and under the right shoulder blade of twelve hours' duration. On examination he was found to have dullness at both pulmonary bases, left-sided cardiac enlargement, and a diastolic bruit in the aortic area. The pupils reacted poorly to light and the tendon reflexes were sluggish. The Wassermann reaction of the blood was positive. The man died suddenly twenty-four hours after admission, having shown no particularly urgent symptoms prior to the fatal collapse. The necropsy revealed an enormous clot, filling the left side of the chest. A sacculated aneurysm, the size of an orange, was found just above the diaphragm; it arose from the descending portion of the thoracic aorta. The site of rupture was on the anterior surface and was half an inch in breadth. Erosion of the ninth, tenth, and eleventh dorsal vertebrae had taken place, an aneurysmal sac being adherent to the spine at that level.

DIGITALIS IN THE TREATMENT OF AURICULAR FLUTTER.

A MEETING of the Section of Medicine of the Royal Academy of Medicine in Ireland was held on April 12th, with the president, Dr. R. J. ROWLETTE, in the chair. Dr. H. P. MOORE read a paper entitled "Some further experiences with auricular flutter," and illustrated the course of each case by electro-cardiograms.

Dr. Moore reported that sixteen attacks of established flutter had been seen in eight patients within the last six years; in one case only was the Wassermann reaction positive. In this case two attacks of flutter were successfully treated; the patient subsequently died with cerebrospinal syphilis, but with an apparently normal heart rhythm. One patient died two hours after admission to hospital with 1.1 ventricular response—a very rare condition. Six patients were still alive. Fifteen out of sixteen attacks of flutter were abolished, with final restoration of the sinus rhythm by full digitalization (to induce auricular fibrillation), followed by three doses of quinidine (to induce normal rhythm).

The PRESIDENT thought a point to bear in mind was that digitalis might be pushed more than probably most clinicians had done up to the present. The failure of others to get results comparable with those of Dr. Moore was probably due to the fact that they did not do this.

Dr. G. E. NESBITT said that he had come across only two cases of flutter. He believed that in Dr. Moore's third case the patient had exhibited some signs of bundle-branch block. Myocarditis was undoubtedly present, and he regarded the prognosis as bad. He thought it was necessary to be very careful in increasing the dosage of digitalis; he had seen cases in which the patient had developed coupled rhythm subsequently. He mentioned a case of typical flutter in a man, aged 75, in whom the condition had been present for two years; after a holiday without treatment he came back with normal rhythm.

Dr. L. ABRAHAMSON referred to a case of auricular flutter with persistent 4.1 block. He pointed out that in paroxysmal flutter the administration of digitalis was unnecessary, since in cases where the attacks did not cease spontaneously quinidine alone usually sufficed to restore normal rhythm. He mentioned a case of paroxysmal tachycardia occurring in pregnancy and due to paroxysms of

auricular fibrillation alternating with flutter; quinidine rapidly abolished the attacks. He suggested that development of a transient flutter during the administration of digitalis in auricular fibrillation was not so rare as Dr. Moore supposed, and thought that in Dr. Moore's case resumption of digitalis because of the supervention of flutter was unnecessary.

Dr. MOORE, replying, agreed with Dr. Nesbitt that bundle-branch block was present in the third case he had described; he thought it was difficult to know what the outlook was, since some of these patients lived for quite a long time, and others did not. It was essential in giving digitalis to remember that it was a poison, and therefore should not be pushed too much; if coupled rhythm occurred it should be stopped at once. He believed that by using an electro-cardiogram toxic symptoms could often be avoided. He agreed with Dr. Abrahamson that flutter often replaced fibrillation after the giving of quinidine.

Pemphigus Foliaceus.

Dr. W. G. HARVEY read notes on a case of pemphigus foliaceus.

A man, aged 60, was admitted to the Adelaide Hospital on June 17th, 1928; he was a farmer, but had nothing to do with cattle and very little with sheep. He was completely covered by a profuse red scaly eruption, presenting the appearance of pityriasis rubra. He had had no skin trouble until about two months before admission, when blebs developed on the back and arms, which grew in size to a handbreadth or more. These blebs were at first discrete, but gradually coalesced to cover the entire surface of his skin. A month later the skin became scaly, but there were still some vesicles on the legs.

The temperature was then 99.8° F. in the evening and normal in the morning; it rose gradually in a fortnight to 101° F. A week before admission he had become somewhat delirious and was getting worse every day. At first the skin was in an inflamed desquamative condition, and the scalp was covered with thick crusted scales, making the features almost indistinguishable. Large flakes of skin were desquamating over the whole surface; the skin of the soles of his feet was separating en masse at the edge, like a slipper, and from the sides pus exuded. Pus of a dark grumous appearance was coming from his right ear. His mouth, tongue, cheeks, and fauces were intensely reddened and dry, with here and there greyish flakes of inspissated material. He was comatose, but next day became conscious, and though he rambled a good deal, he was at times quite sensible. He had all the appearance of a case of pityriasis rubra, but there was a peculiar sour smell somewhat reminiscent of the gas gangrene of war times. The history of the commencement of the attack indicated that the case was really one of pemphigus foliaceus. With the exception of the pus, there was little sign of moisture, and no blebs were observed at this time or during the period he was under Dr. Harvey's care; but the newly formed skin under the scales was easily detachable by firm rubbing, showing Nikolsky's sign. The urine contained a slight trace of albumin and a large amount of indican, which was constantly present.

The treatment adopted was calomel internally in 1/4 grain doses as an intestinal antiseptic, sodium bicarbonate, and arsenic. Locally, carron oil was applied and a glycerin preparation of lead subacetate; a mixture of glycerin and water was used as a lotion. Calamine cream and calamine lotion were also tried with and without ichthyol. The patient towards the end of his fifth week in hospital began to run a higher temperature, and died on July 24th.

Dr. O'MEARA read his pathological report of the finding of an acid-fast bacillus in numbers in the lesions—a unique finding. This bacillus was not, of course, the tubercle bacillus. On culture it did not yield any growth.

Dr. E. T. FREEMAN said there was no doubt that the condition was pemphigus foliaceus. He suggested that possibly the micro-organism was the smegma bacillus.

Dr. O'MEARA, replying, said that the organism which he had found did not resemble the smegma bacillus. As a rule this bacillus was not difficult to grow, and when it was remembered that the organism was growing on the surface of the skin in the case described, he thought that it would also have grown on artificial culture; an anaerobic culture might have been more successful.

The Value of Splenectomy in Banti's Disease.

Dr. F. J. O'DONNELL read notes on a case in which death followed splenectomy.

A boy, aged 6, had his spleen removed in 1926 for early Banti's disease. The operation checked his downhill course at the time, and subsequently he improved greatly.

On June 16th, 1928, he had headache and vomited three times during the day. The temperature was 102.8° F.; the pulse 120; and the respirations 24. Physical examination was negative except for a suspicion of a patch of pneumonia at one base. The boy was mentally quite clear, and complained chiefly of frontal headache.

Next morning the boy was looking intensely ill; there was a purpuric patch on the upper lip, the gums were bleeding, and black material was frequently vomited. He was restless and for the most part delirious. The head was slightly rigid, the pupils sluggish with photophobia. The temperature was 103.8° F.; the pulse was hardly palpable, and the heart sounds were feeble. During the day his condition grew progressively worse; the purpura spread widely on the face and similar patches appeared on the legs. The delirium and irritability grew more pronounced; in the afternoon the urine was bright red with blood, and by night the head was rigid. Death occurred the following morning; no necropsy was held.

Dr. O'Donnell said that the boy had died from an acute septicaemia, possibly of fulminating cerebro-spinal fever, but the case had also features of purpura fulminans. The boy's father had had his spleen removed in 1919, and had died later of septic pneumonia, manifesting a similar lack of resistance to the disease. The combined histories suggested some association between splenectomy and a diminution of the natural resistance of the body to disease.

Professor T. G. MOORHEAD said that this case raised a question as to the value of splenectomy in splenic anaemia. In recent years it had been universally accepted that surgery held out the only prospect of cure to sufferers from this disease; but in order to assess the value of surgery it was necessary to know the natural course of the disease when left untreated, and also to know the after-history of cases in which operation had been performed. Ordinary textbooks stated that untreated patients might live from fifteen to twenty years, and that the precirrhotic stage of the disease might last for as long as twelve years. As yet he believed no surgical statistics were available to show that life was prolonged or health permanently improved by operation, though there seemed to be no doubt that splenectomy was generally followed by an immediate and striking improvement in symptoms. Professor Moorhead remarked that Dr. O'Donnell's case was undoubtedly one of Banti's disease of the rare familial type; this had been proved by histological examination of the spleen. He also reported the after-history of three other cases in which splenectomy had been performed, but in two of these the operation had definitely not checked the course of the disease. One of the patients, though operated on in an early stage, continued after operation to suffer from progressive anaemia with haemorrhages, and died six months later. The other died two years after the operation, and in the intervening period had repeatedly suffered from haemorrhagic and thrombotic disturbances. The third patient lived nine years after the operation, but during all that time was anaemic and only fit for light work. Professor Moorhead said that a detailed account of the working capacity and the general health of patients on whom splenectomy had been performed for Banti's disease was urgently required.

Dr. G. E. NESBITT said he had always doubted the real value of splenectomy in these cases. He suggested that a statistical inquiry to determine the after-history of all cases in which splenectomy had been performed would be of great value.

THE OSLER CLUB.

THE Osler Club celebrated its first anniversary at a meeting held on Tuesday, April 30th. The secretary, presenting his report for the year, paid a tribute to the splendid work of the club's foreign secretary. Sir FARQUHAR BUZZARD, in a paper on the history of neurology, traced the growth from neurological aspects of other sciences of the independent science of neurology, for which he foresaw a future of great importance in the elucidation of the problems of education. Mr. FALCONER MADAN charmed the meeting with an address on Osler and Burton, full of the rare fruits of his wit, wisdom, and scholarship. Dr. J. D. ROLLESTON gave a brief account of the life and work of Billroth, and Sir D'ARCY POWER and Mr. W. G. SPENCER took part in the discussion. The club's collection of Osleriana was exhibited, together with portraits and works of Burton and of Billroth. Among those present were Dr. H. Morley Fletcher, Professor Gask, Dr. G. B. Harrison, Professor Fraser-Harris, Dr. Schroeder (of the Anglo-German Academic Bureau), Mr. Geoffrey Keynes, Dr. A. P. Cawadias, Mr. Hugh Cairns, Mr. C. Wilson, the Conservator of the Wellcome Historical Medical Museum, the librarian of the Royal Society of Medicine, and Mr. Philip Franklin

Reviews.

BILIARY DISEASES.

THE book by EVARTS GRAHAM, COLE, COPHER, and MOORE on *Diseases of the Gall Bladder and Bile Ducts*[1] was first published in 1928, and already has required reprinting, which may be taken as good evidence of its immediate success. In the second printing (1929) a short introduction, placed immediately after the preface, is the only addition, and gives the authors the opportunity of dealing with some minor criticisms which have appeared in previous reviews of the book. They explain how they wished to emphasize particularly the new work on the biliary tract, and therefore made no attempt to go fully into questions of differential diagnosis between biliary disorders and other diseases which may simulate them.

It is impossible to consider adequately all the features of interest in this book of nearly 500 pages, and some sections can only be named to show the completeness of the work. There is first of all an excellent account of the anatomy and physiology of the biliary tract, in which due allowance is made for many points, especially in physiology, which are still matters of controversy. Then follows a clear description of cholecystitis in its various forms, a disease of which the frequency and importance are gradually being recognized by physicians and surgeons alike. The medical treatment of acute cholecystitis is not adequately discussed, but this is inevitable in a book written by three surgeons and a radiologist. Gall-stones, their varieties, and the theories of their mode of formation are, as might be supposed, fully dealt with. Catarrhal jaundice and cholangitis are considered together, in accordance with the newer teaching, and the description of the various forms of cholangitis is to be warmly recommended as the most complete discussion of the subject available anywhere.

The subject of cholecystography naturally gets the fullest description from the authors, who are the originators of the method. This section, extending as it does to one hundred pages, with full references, must be regarded as the authoritative pronouncement on cholecystography, and is therefore indispensable to physicians, surgeons, and radiologists alike. Another long chapter of over fifty pages is devoted to the possible applications of tests of hepatic function in the diagnosis of biliary disease. All the various dye tests, sugar tests, and tests such as the van den Bergh reaction are fully described, and finally it is pointed out how the intravenous injection of phenoltetraiodophthalein provides at one and the same time both a "dye test" of hepatic function and an opaque substance for the radiological test of cholecystography. Hidden away in the chapter on tests of hepatic function is an interesting account of "white bile." Quite apart from the very great physiological interest of white bile, its presence always means an increased surgical risk in operations on the biliary tract. It is now agreed that "white bile" is the product of the walls of the main bile ducts, and collects in the ducts, as Rous and Drury have shown, in conditions of severe damage to the liver parenchyma when biliary obstruction is also present. Judd and Lyon at the Mayo Clinic found "white bile" nineteen times in operations on the common bile duct, and four of these nineteen patients died. The last long chapter of the book is devoted to surgical treatment of diseases of the biliary tract, medical measures being scarcely referred to, and this chapter is obviously meant for surgical readers alone. The index has been compiled with great care, and is entirely adequate.

The whole book is easily the best available on diseases of the biliary tract and their surgical treatment. The work of Evarts Graham and his colleagues and their development of the technique of cholecystography rank along with the more purely physiological work of F. C. Mann and his colleagues as among the best scientific and practical studies in medicine which have appeared in the United States of America in the last decade.

[1] *Diseases of the Gall Bladder and Bile Ducts.* By Evarts Ambrose Graham, M.D., Warren Henry Cole, B.S., M.D., Glover H. Copher, M.D., and Sherwood Moore, M.D. Second printing. London: Baillière, Tindall and Cox. 1929. (6 × 9½, pp. xv + 477; 224 figures, 7 plates. 35s. net.)

The fourth volume of a series of German monographs on the practice of medicine, edited by Grote, Fromme, and Warnekros, is entitled *Die Erkrankungen der Gallenwege und ihre chirurgische Behandlung*[2] (diseases of the biliary passages and their surgical treatment), and is written by KÖRTE. It contains only about 170 pages, but is an excellent and complete summary of all modern knowledge on the subject. It is quite up to date and its completeness is extraordinary. We have searched for omissions of important details, but have not found them. As is common in German textbooks, almost all the references are to the German literature, and even in the section on cholecystography the name of the originator of the method, Evarts Graham of St. Louis, is merely mentioned without any references to his original papers. The twenty-six illustrations are remarkably good and clear, and there is an adequate index. The whole monograph gives a thoroughly sound account of the subject from the German point of view, and makes it easy for any reader to refer to all the recent German scientific papers dealing with diseases of the bile ducts and their surgical treatment.

[2] *Die Erkrankungen der Gallenwege und ihre chirurgische Behandlung.* Von Professor Dr. Werner Körte. Medizinische Praxis, Band iv. Dresden und Leipzig: T. Steinkopff. 1928. (6 × 8½, pp. xii + 183; 26 figures. R.M.10.)

MUIR'S PATHOLOGY.

PROFESSOR ROBERT MUIR'S *Text-Book of Pathology*[3] has established its reputation as a standard work on the subject, and as it has already been reviewed in these columns (April 15th, 1925, p. 787) it is unnecessary to refer to its general features. A second edition has now been issued, and a comparison with the former gives evidence of considerable revision in details, together with the addition of much new matter, entailing an enlargement of the work to the extent of a hundred pages.

The section on oedema has been revised and the recently recognized role of physical factors, as distinguished from the secretory activity of the endothelium, discussed. A very good account of the reticulo-endothelial system is given; much importance has been attached to this system in recent years, and the author makes some useful critical comments as to its significance. Similarly with regard to the interesting subject of tissue proliferation induced by special stimuli—for example, the stimulating action of embryonic juice on tissue cultures. Carrel has done much work on these substances, to which he has given the name of trephones, and considers that they play an important part both in repair and in tumour formation. The author gives a warning of the danger of applying the results of test tube observations to the more complex relations in normal tissues *in situ*. In a later part of the volume, under the heading of metaplasia, an excellent instance of a special stimulant of cell proliferation is given in connexion with J. S. Young's experiments, in which an injection of sudan III in olive oil with sodium cholate produced a marked proliferation of the cells of the pleural serosa, leading to an appearance resembling transitional, and even squamous, epithelium. The question of filterable viruses in connexion with the Rous sarcoma is fully discussed, including Gye's theory of the dual nature of the filterable agent. The author considers it questionable whether tumours of the Rous sarcoma type do not form a class by themselves, and finds it difficult to reconcile the view that a virus is concerned in tumour growth in general, with the results of the experimental production of cancer. An account is given of Mann's experiments on the extra-hepatic production of bilirubin. He and his co-workers have found that bile pigment is formed in the liver to a slight extent only; rather more is formed in the spleen than in the liver, and the chief source is the bone marrow. It may be, as the author points out, that the site of bilirubin formation differs in different animals, and it is impossible at present to say what is the normal site in the human subject. Among other matters added by the author and bringing the work up to date may be mentioned the recent researches

[3] *Text-Book of Pathology.* By Robert Muir, M.D., Sc.D., LL.D., F.R.S. Second edition. London: E. Arnold and Co. 1929. (Med. 8vo, pp. vii + 872; 501 figures. 35s. net.)

on the cerebro-spinal fluid, rickets, the islands of Langerhans, and the so-called thyroiditis of Riedel.

A few additional illustrations have been included, but the general excellence of the figures in the first edition called for little alteration in this respect. A feature of the work which might be more generally adopted is the limitation of bibliographical references. It is customary either to give an extensive bibliography or to omit it altogether, and in neither case is the student much assisted. The middle course adopted by Professor Muir seems to be the right one—namely, to choose a few good books for the student, which will give him all the additional information he requires.

LARYNGO-PHARYNGEAL SYMPTOMS OF NERVOUS DISEASE.

THE monograph entitled *Kehlkopf und Rachen in ihren Beziehungen zu den Erkrankungen des Zentralnervensystems*[4] (larynx and pharynx in their relation to diseases of the central nervous system) recently produced by Dr. BÉLA FREYSTADTL contains a wealth of material which is of great value. Not only does it systematize in a manner which helps to emphasize their importance the well-known disturbances of laryngeal and palatal innervation, but it adds many new observations to those already current.

Too often, as Dr. Freystadtl has pointed out, the absence of any symptoms referred to the larynx or pharynx leads to perfunctory examination of these regions, whereas a more detailed and careful investigation will reveal defects which have been sufficiently compensated or insufficiently severe to be noticed by the patients themselves. It has been the author's task to show which of these slight defects are indicative of incipient disease and to estimate their significance. Many progressive diseases, involving widespread lesions in the central nervous system, have a characteristic order of attack upon the medullary nuclei. The particular onset and course of the functional impairment which results is sometimes pathognomonic of the disease, and Dr. Freystadtl shows how this knowledge makes it possible to differentiate between the various forms of bulbar palsy at a stage when other motor and sensory defects do not contribute to the clinical picture. If the nature of the lesion is thus suggested, its site may be as readily deduced from the same observations. The localization of small lesions around the aqueduct is greatly facilitated by our knowledge of the topography and connexions of the nuclei of the third cranial nerve. The information supplied for such localization by examination of oculomotor functions is furnished in the case of lesions in the lower part of the medulla by examination of the largyngopalatal mechanism. One difference which will be immediately appreciated between these two sets of apparatus—the visual and the laryngeal—is that, whereas stereoscopic vision demands such nicety of adjustment and co-ordination that diplopia, at least, may be complained of at a stage when defective movement can with difficulty be observed, the various functions of the larynx are less exacting and their impairment is later in appearing. Disturbances of breathing, of voice production, of swallowing, of speech, and even of taste are all dealt with by Dr. Freystadtl, who thus enlarges the field purposely beyond the strict limits of the larynx and pharynx. Spinal, bulbar, cortical, and motor nerve lesions have been considered separately: in the absence of exact knowledge as to the nature of myasthenia gravis no one will quarrel with its inclusion among diseases primarily affecting the bulb. The author has ranged widely in search of clinical and pathological data, and no obvious omissions present themselves. Vascular lesions of the bulb claim, of course, a prominent place among those under consideration, and the work of Foix and Hillemand, who have recently published a detailed account of this vascular supply, might have been usefully included in an attempt to systematize the lesions in that region. This monograph will prove of the greatest interest to neurologists, and is, within a comparatively narrow compass, complete.

[4] *Kehlkopf und Rachen in ihren Beziehungen zu den Erkrankungen des Zentralnervensystems.* Von Dr. Béla Freystadtl. Berlin: J. Karger. 1928. (Sup. roy. 8vo, pp. 325; 35 figures. M. 17.)

FORENSIC MEDICINE.

A THIRD edition of the late Dr. F. J. SMITH'S *Forensic Medicine and Toxicology*[5] has been published under the editorship of Dr. GEORGE JONES. This book consists essentially of the course of lectures given at the London Hospital Medical School, and within a compass of some 400 small pages it traverses the whole field of forensic medicine. This compression has certain advantages if the object is to place a summary of the subject before the student for examination purposes. If, however, the object of the book is to provide a real help to the student when dealing with cases in practice, then such compression tends to be destructive.

The chapters on law and procedure are full and informative and the general description of wounding and deaths from various forms of violence is adequate, but there is a distinct lack of practical detail throughout the various sections. In connexion with the examination of blood stains, a number of non-specific tests which are obsolete should be omitted, and the space utilized for a better description of more useful tests. In the toxicological section, the student is given a useful summary of the actions of the common poisons, but here again much more care should be exercised in the choice of material and the method of its presentation. For example, carbon monoxide and carbon dioxide poisoning are mentioned together, and no information is given about the dangerous concentrations of carbon monoxide, nor is the presence of this gas in the exhaust fumes from motor cars, geysers, etc., mentioned. The Poisons Act and the Dangerous Drugs Act and Regulations are insufficiently described in so far as they affect the young practitioner.

The editor has brought much of the subject-matter up to date, but the great amount of new legislation affecting practitioners of medicine and the advances in the various sciences related to the study of medicine make a revision of a small textbook a matter of extreme difficulty. Dr. Jones has, however, produced a very creditable new edition, which retains the individuality of the author and gives students a working knowledge of the subject of forensic medicine.

HOSPITALS AND THE STATE.

AMONG the numerous books and papers regarding the hospital question there is one which has an especial interest in that it deals with the history of the hospitals of this country. Dr. R. WESTLAND CHALMERS has written a most interesting little book, *Hospitals and the State*,[6] in which he traces the origins of hospitals as we know them, from the days when guests were so few that the stranger was always welcome, to the times when the great houses had their own strangers' halls, and so through centuries of private kindliness and charity to a stage where the hospital provided hospitality for the sick alone instead of for all. Three-quarters of his little book is filled with this most interesting story, in a series of chapters which are well documented and sufficiently wide in their scope to be informative. From hospital origins and hospitality we are taken to forced benevolences, to the policing of the poor, the growth of mediaeval hospitals, and their influence upon the public conscience; then to the philanthropist as a reformer, and the growth of collective philanthropy. Dr. Chalmers next discusses the modern situation, upon which he has definite ideas, and we may observe here that his book is much better than his foreword. There are half a dozen pages of this, and there is scarcely a hint in it of the interest of his historical survey; it is full of sneers at the "voluntary" system. It is strange that Dr. Chalmers should have written such caustic words on benevolence, for the main part of his book is in effect a eulogy of benevolence and of what it has effected. But the reason of his attitude is not far to seek. He has come to believe that the care of the sick is the sole duty of the organized State, and that

[5] *London Hospital Lectures on Forensic Medicine and Toxicology.* By the late Frederic John Smith, M.D., F.R.C.P., F.R.C.S. Third edition, revised by George Jones, M.B., M.R.C.S., L.R.C.P., D.P.H. London: H. K. Lewis and Co., Ltd. 1929. (Feap. 8vo, pp. xx + 440. 10s. net.)

[6] *Hospitals and the State.* By R. Westland Chalmers. M.B., Ch.B., D.M.R.E. London: J. Bale, Sons, and Danielsson, Ltd. 1928. (Demy 8vo, pp. ix + 145. 6s. net.)

the State alone can effectively deal with the hospital problem, for which, as he rightly says, it is already responsible to the extent of some three-fifths of the work. Yet, despite the fact that the State is responsible for so much, he blames the voluntary hospitals for the defects he finds. "It becomes obvious that any reform of a practical nature will demand large financial resources if true economy and efficient methods are to be established against the hand-to-mouth and fumbling methods of the old-fashioned routine of voluntaryism."

AUSCULTATION.

IN his little book on modern auscultation of the lungs[7] Dr. JUMON discusses the causes of the various normal and abnormal breath sounds. Some of his theories seem new and interesting. He believes, for instance, that the normal vesicular murmur is caused by the production of numerous fluid veins when the air passes through the muscular ring surrounding the mouth of each alveolus. This ring he calls the "bronchiole sphincter," and he states that section of the vagus, causing paralysis of the muscle, abolishes the murmur. The book consists of an introduction, three parts, and an appendix. The introduction deals with the history and anatomy of auscultation, and describes the technique. The first part describes the normal vesicular murmur, its causation, and its variations from the normal with regard to audibility. The second part, which is the largest, deals with the pathological variations of the murmur and with the various adventitious sounds. A brief description of the physical signs present in each of the diseases mentioned is given. The third part deals with those physical signs in which both percussion and auscultation are necessary simultaneously, and the appendix describes a system for recording the auscultatory phenomena graphically. The book is more interesting to the experienced clinician than useful for English-speaking students, as it only deals with one of the four necessary methods of routine examination of the lungs.

NOTES ON BOOKS.

PROFESSOR LYMAN is one of the best known and most industrious workers in the field of the ultra-violet rays, and the second edition of his book on *The Spectroscopy of the Extreme Ultra-Violet*[8] contains a wealth of facts and measurements unknown when the first edition appeared fourteen years ago. The volume is meant for physicists and the increasing number of experimental workers who deal with ultra-violet rays, and the apparatus connected therewith, from the physical, chemical, or biological point of view; the subject of therapy with these rays is not dealt with. The book is well written, full of information, and supplied with a long bibliography. It should be in the hands of all who are interested in the Schumann region of the spectrum.

Dr. ERNEST WARD is evidently a man of great energy and varied interests. In 1913 he helped to form an Association of General Practitioners for Collective Research, which obtained support in many influential quarters. The great war nipped the association in the bud, but in his book *Medical Adventure*[9] Dr. Ward has exhibited some of the problems with which such a body of general practitioners might deal. Many of his chapters were contributed to the *London Hospital Gazette*, and all are described as plain unvarnished narratives of the author's actual experience, recording observations and reflections along the by-paths of medicine. He begins his entertaining book with an account of legal adventures, from which the young practitioner may learn something of the pitfalls met with in giving evidence before a court of law: he will appreciate the usefulness of a well-turned phrase, but realize the advantage to be gained by adopting an inflexible ethical code. One of Dr. Ward's little stories may be quoted—that of a coroner's jury which, despite the advice of the coroner, insisted on returning a verdict that "the deceased died from a stone in the bladder, swallowed while lying in a gravel pit in a state of intoxication." The more serious and instructive parts of the book will be found in such matters as Dr. Ward's conclusions about the treatment of tonsils and adenoids, the treatment of tuberculous glands, the diagnosis of early tuberculosis, and the recognition of aberrant forms in infectious disease, such as measles. Whether his views on some of these topics are acceptable or not, they are appropriate matters for collective research by general practitioners. The book ends with a subjective study of encephalitis lethargica.

Wheat Flour and Diet,[10] by Professor SWANSON, and a practical guide to rational cookery,[11] by POZERSKI, HEMMERDINGER, LABBÉ (Mme and Dr.), and MARTEL, are books that have at least one common feature—namely, that they are written rather for a general than for a professional public. The first is an interesting survey of what, after all, is one of the oldest and most essential of human industries. The reader has before him a clear and simple account of milling, from the primitive quern to the modern American mill. In the latter part of the book there is a discussion of dietetics and of the nutritive values of various foods. A practical guide to rational cookery appears to embody a course of instruction given to students of the Société Scientifique d'Hygiène Alimentaire. It contains a short discussion of the scientific basis of cookery, practical instructions, and a large selection of attractive-looking recipes.

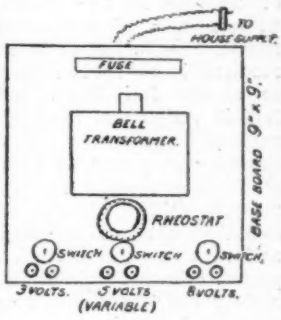
A pharmacopoeia for the King Edward VII Memorial Hospital, Bombay, has been compiled by Dr. A. S. ERULKAR, with the aid of a committee. It is arranged on the usual lines, the only exceptional feature being lists of the vernacular names of drugs. Copies can be had from the dean at the price of 2 rupees each and postage.

[7] *L'Auscultation Pulmonaire Moderne.* Par H. Jumon (de la Bourboule). Paris: N. Maloine. 1929. (5½ × 7½, pp. 217; 30 figures. 26 fr.)
[8] *The Spectroscopy of the Extreme Ultra-Violet.* By Theodore Lyman, Ph.D. Second edition. Monographs on Physics. London: Longmans, Green and Co. 1928. (Med. 8vo, pp. vii + 160; 7 figures. 10s. 6d. net.)
[9] *Medical Adventure: Some Experiences of a General Practitioner.* By Ernest Ward, M.D.Camb., F.R.C.S.Eng. London: J. Bale, Sons, and Danielsson, Ltd. 1929. (Cr. 8vo, pp. xii + 291; illustrated. 8s. 6d. net.)
[10] *Wheat Flour and Diet.* By C. O. Swanson, Ph.D. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1928. (Cr. 8vo, pp. xiii + 203; illustrated. 10s. 6d. net.)
[11] *Travaux Pratiques de Cuisine Raisonnée.* Par les Drs. Pomiane Pozerski et Hemmerdinger, le Dr. et Mme Henri Labbé, et M. Martel. Paris: Le François. 1928. (Med. 8vo, pp. 134; 4 figures. 13 fr.)

PREPARATIONS AND APPLIANCES.

A CONSULTING ROOM TRANSFORMER FOR SMALL SURGICAL APPLIANCES.

DR. E. M. R. FRAZER (Burton-on-Trent) writes: Most practitioners use small electric lamps in such pieces of apparatus as laryngoscopes, ophthalmoscopes, and head-lamps, but frequently find that the batteries supplied with these are run down, whether with use or disuse. A simple means of obtaining current of 3, 5, or 8 volts from the domestic supply is by a bell transformer, which is a small instrument about the size of a pocket-lamp, and costing about 5s. 6d. The domestic current is applied from a wall plug or lamp socket; at the other side of the instrument are terminals providing 3, 5, or 8 volts at 1 ampere. The transformer may be permanently mounted on a small board, to which are also fixed the three pairs of terminals necessary for the supplies. Between the transformer and the domestic supply a fuse of 3 amperes resistance should be placed (on the base board). The low voltage, of course, on an alternating current supply is also alternating. These transformers can be purchased for any domestic supply, and will be found to be most reliable. An added refinement is a small (wireless) rheostat in the 5-volt circuit to vary the amount of current. Such a board can be made up for about 15s., including fuse, terminals, three switches, rheostat, transformer, all wiring, and plug or adaptor for connexion to supply. The amount of current taken from the mains is infinitesimal. I append a sketch of the complete apparatus. The wiring is very simple, and can be carried out by any amateur electrician.



JACOBSON'S SOLUTION.

"Dr. Jacobson's Solution" (benzyl cinnamic ester), prepared by Messrs. Boots Pure Drug Company, is a solution in olive oil of benzyl alcohol and ethyl cinnamate, intended for intramuscular injection. Jacobson claims that a course of such injections (0.25 to 1.0 c.cm.) produces benefit in a variety of forms of tuberculous infections, including pulmonary tuberculosis. These claims have been supported by numerous articles in French medical journals.

SALICYLATE SOLUTION FOR INJECTION TREATMENT OF VARICOSE VEINS.

"Hypoloid" sodium salicylate is prepared in 20, 30, and 40 per cent. solutions and put up in hermetically sealed phials of 5 c.cm. ready for immediate intravenous injection. This preparation provides an alternative to solutions of quinine and urethane for the production of sclerosis in varicose veins. It is manufactured by Messrs. Burroughs Wellcome.

BRITISH CONGRESS OF OBSTETRICS AND GYNAECOLOGY.

(*Concluded from page 825.*)

BOTH morning and afternoon sessions on the second day of the congress were devoted to short communications on various subjects. Dr. FREDERICK EDGE was in the chair in the morning, and Dr. GORDON FITZGERALD during the afternoon.

SEQUELS OF UTERINE HAEMORRHAGE OF NON-MALIGNANT ORIGIN.

Professor J. O. POLAK (New York) read a paper on the follow-up results in 500 cases of uterine haemorrhage of non-malignant origin. He stressed the importance of absolutely careful examination and diagnosis to exclude such conditions as adnexal disease. He said that in the case of fibroids an attempt should be made to correlate the clinical manifestations with the site of the tumours. In the main he felt that fibroids were best treated by operation; the decision as to myomectomy or hysterectomy must be governed at all times by the judgement of the operator. Professor Polak showed very beautifully, by means of lantern slides, the effect which fibroids had on the blood circulation in the uterine wall. He advocated the use of radium in selected cases, never exceeding 300 milligram hours, and seldom 250 milligram hours in cases of idiopathic bleeding, but emphasized the importance of adequate drainage afterwards, if pyometra and other unpleasant sequelae were to be avoided. A routine examination of curettings was made as a preliminary in all cases.

Metropathia Haemorrhagica.

Dr. WILFRED SHAW (London) read a paper on metropathia haemorrhagica. He pointed out that in this disease, which was to be regarded in the nature of a clinical entity, the endometrium was thickened and in parts hyperplastic; cystically dilated glands were found, and there were areas of necrosis in the superficial and middle layers. These peculiarities of the endometrium were associated with constant disturbances in the function of the ovaries, which resulted in an inhibition either of the process of ovulation or of the full development of the corpus luteum. The follicle which was affected became cystic. The continuous vaginal haemorrhage complained of by patients with this disease was produced by necrosis in the superficial layers of the endometrium. Dr. Shaw suggested that the term "metropathia" should be employed to describe these cases, and that the various clinical types should be referred to under names which indicated the characters of the symptoms. Some overlapping was bound to occur, and it was mainly for this reason that the term "metropathia" was advocated for these cases.

The Cause of Cancer of the Cervix.

Dr. K. V. BAILEY (Manchester) read a paper entitled "An inquiry into the basic cause of cervical cancer; the pathology of cervicitis (cervical erosion), and the relation between cervicitis and cancer of the cervix." The investigation comprised the examination of 850 specimens of the cervix uteri with a twofold object: to ascertain the precise pathology of the so-called cervical erosion; and, with a thorough knowledge of this pathology as a basis, to inquire into the problem of the inception of cervical cancer. He considered there were two types of pathology of cervicitis: the relatively unimportant and rare condition of congenital erosion seen in the nulliparous, and presumably non-infected, cervix; and the large group of inflammatory erosions. Dr. Bailey believed the life-history of this condition fell into four stages: (1) the primary effects of irritation; (2) epithelial reaction; (3) replacement of columnar by squamous epithelium on the surface of the affected area; and (4) ultimate healing. These several varieties were illustrated by photomicrographs. Finally, Dr. Bailey traced the connexion between the reaction of the cells of the Malpighian layer to various strengths of irritants and the metaplastic changes that resulted.

The papers by Dr. Polak, Dr. W. Shaw, and Dr. K. V. Bailey were discussed together owing to their more or less intimate connexion.

Professor ADLER (Vienna) objected to the bare term "metropathia," since in many instances "ovariopathia" would describe the condition better in relation to cause and effect. He pointed out the frequency in these patients of cystic degeneration of the ovary, and cases of subacute inflammation where excess follicle ripening occurred. In young women he preferred to try corpus luteum and other glandular extracts in combination with iron, and at the menopause, if *x*-ray treatment failed, he advised vaginal hysterectomy.

Professor BLAIR BELL (Liverpool) commented on Professor Polak's restraint, emphasizing as he had his successes and his failures. The speaker added that he had also employed radium considerably, except in cases with fibroids, for at the menopause the trouble with fibroids did not end. Radium had only a very local effect on the endometrium and produced a sclerosis; the ovaries were too far away to be affected. He had often employed radium in the subinvolution of the menopause, but with great care and judgement; in cases where the cervix was badly lacerated he performed vaginal hysterectomy. He had not used radium for dysmenorrhoea, and did not believe very much in corpus luteum, since he thought the follicle fluid more reasonable. He stated that the cysts so often found in the ovary were irritant to the interstitial cells, and cited a case of ovarian grafting where he had to cut down on the graft and shell out a cyst before bleeding would stop.

Dr. FITZGIBBON (Dublin) divided cases into: (1) young women with retroversion; (2) those menopausal women in whom the uterus had undergone atrophy but whose ovaries were still active. In such cases the atrophic uterus was unable to control bleeding. In young women large ovaries were frequently found at laparotomy; for these he had employed a wedge resection operation, and corrected the uterine deformity with good results. He had had a small experience with radium, which he found of value in its sclerosing effect on the endometrium.

Mr. T. G. STEVENS (London) disagreed with some of the previous speakers who had referred to the excess of fibrous tissue over muscle in these cases. He stated emphatically that it was in the arterioles that excess elastic and not fibrous tissue was laid down.

Dr. BETHEL SOLOMONS said that curettage was nearly useless in excluding malignant degeneration which might be present in a tumour far away from the endometrium; therefore, unless there was some constitutional contra-indication to operation, he did not believe in radiotherapy. He had had six cases of abdominal malignancy in women who had been treated in this way for fibroids. Recently a patient for whom he had recommended hysterectomy two years previously, and who had chosen radiotherapy returned suffering from a large tumour. At operation he had removed two carcinomatous ovarian tumours and a uterus full of fibroids; these had persisted in spite of the stopping of menstruation. The blood changes in connexion with radiation must be considered. When a patient was highly anaemic he advised a bloodless hysterectomy without previous transfusion; it arrested further loss, and gave excellent results. He believed that radium should be inserted by the gynaecologist under the guidance of an expert radiologist. He inquired when retroversion was present whether operation or pessary was used before the insertion of radium; also whether any of the young girls were sterilized by the radium. He believed that if the correct hormone were discovered the haemorrhage could be controlled; in addition, many of the old-time drugs could be tried, since these were sometimes successful.

Dr. POLAK, replying, said that the object of his paper had been to show the limitations of radium. If a retroversion was present results with radium were bad owing to inefficient drainage. In submucous fibroids, unless sessile, radium should not be used. Dr. SHAW said he had found the corpus luteum extracts sold in this country quite useless, and that other glands were not to be forgotten.

USE OF GLYCERIN IN OBSTETRICS AND GYNAECOLOGY.

Dr. CAROLINE ELLIOTT (Edinburgh) read a paper on the use of glycerin in obstetrics and gynaecology. After discussing at some length the rationale of the use of glycerin, Dr. Elliott drew a contrast between patients who had been treated prophylactically (those who had had major obstetrical intervention, or who had become septic as a result of intervention at delivery) and patients who had been delivered without complication but had afterwards shown morbidity; a large number of the latter were from the venereal department. The technique of administration consisted in the introduction, under very low pressure, of two ounces of unsterilized glycerin into the uterus; smaller amounts of glycerin were used in other cases.

Mr. LOUIS C. RIVETT (London) asked if a comparison had been drawn between cases treated during a year and those in years when no glycerin was used. He felt that this procedure had a very definite place in the treatment of puerperal sepsis, but unless cases were suitably selected the procedure would be abused. Dame LOUISE MCILROY (London) referred favourably to the use of glycerin in the differential diagnosis of pelvic peritonitis and frank appendicitis. She believed in frequently repeated injections of small quantities, for which purpose a rubber catheter was stitched into the cervix, and the ward sister could then perform the injections. Dr. CRAWFORD (Liverpool) referred to the efficacy of the treatment in septic abortion, but stated that she had seen unpleasant reactions follow its use. Dr. LACEY (Liverpool) said he had been using glycerin and chloramine owing to the difficulty in sterilizing glycerin.

THE EXTENDED VAGINAL OPERATION FOR CERVICAL CANCER.

Professor ADLER (Vienna) read a paper entitled "Results in 1,000 cases of the extended vaginal operation for cancer of the cervix." He referred to the growth in favour of the Schauta operation; he commented on its low primary and remote mortality, and on its high percentage of five-year cures, which had shown a steady increase with the passing of two decades until, with the additional employment of post-operative radiation, the percentage reached the wonderful figure of 58.8. Professor Adler, by means of lantern slides, demonstrated most clearly the steps of the operation, pointing out the ease of access to the ureters and parametrium, the short time the peritoneal cavity was actually open, and the absence of shock, more especially since the adoption of local anaesthesia.

COMPLICATIONS OF OVARIAN TUMOURS.

Professor J. HENDRY (Glasgow) read a most interesting description of cases, and showed actual specimens of ovarian tumours which were associated with complications, either obstetrical or gynaecological.

Dr. BETHEL SOLOMONS said that the discussion two years hence precluded many remarks at present; he felt, however, that several main themes were suggested for the future paper. The most important were the malignancy, extent of malignancy or maturity, and the non-malignancy of the tumour. The results of *x*-ray treatment after removal of the tumour were excellent. It was difficult to answer the questions whether both ovaries should be taken away, and also the uterus.

ECLAMPSIA AND ITS RENAL LESION.

The morning of the third day of the congress was occupied by the reading of short communications. Mr. R. H. PARAMORE (Rugby) contributed a paper on eclampsia and its renal lesion.

Mr. Paramore opened his argument by pointing to difficulties in the acceptance of the toxaemic explanation of the visceral lesions of eclampsia—both in the case of the liver and in that of the kidney. In eclampsia, since the periportal cells became degenerated while the central cells escaped, if the implication of the periportal cells was due to a poison, then the periportal cells must be different in nature from the central cells. In the symmetrical necrosis of the renal cortices, since the inner third of the convoluted tubules remained intact, on the supposition that the outer parts of these tubules were destroyed by a poison, the cells of the inner and outer parts of these tubules, similarly, must be different in nature from each other. The speaker believed that these lesions were produced mechanically. He reviewed the vascular mechanism in the kidney, pointed out the importance of the arteriae rectae, and showed that the renal lesions of eclampsia were the associated effect of a compression of the kidney and an engorgement of the medulla with blood. He argued that in experimental diuresis a distension of the cortical tubules occurred; if the ureter was clamped the distension of the cortical tubules was exaggerated, and the kidney became almost bloodless. In eclampsia the oliguria could not be regarded as an expression of the needs of the body: the cause of it must exist in the kidney. The distension of the Bowman's capsules and of the convoluted tubules showed that an attempted diuresis had been in play, and that the oliguria was not due to a vaso-constriction of the renal arterioles or to an inability of the renal cells to work. The oliguria was thus the result of an obstruction to the outflow of urine, and the only place of such obstruction could be the medulla. Microscopic examination of the medulla showed that in eclamptic states it was congested and turgid with blood.

The circuitous route of the uriniferous tubules and the passage of casts when diuresis was induced indicated that obstruction of the tubules in the medulla could and did occur. The blockage could only be caused by a compression of the whole kidney, in which the medulla, invested by the cortex, was implicated; and—after the relief of the compression (as, for example, by taking a breath)—by an engorgement of the medulla with blood. The proneness to oliguria of strong primigravidae, of women with twins, and of women with progressive concealed accidental haemorrhage, was mentioned. The oliguria was instituted by direct pressure on the kidney, but was maintained during resting states by vascular engorgement of the medulla. At the moment of decompression, blood could enter the medulla from the renal arteries more readily than urine could escape from the cortex; thus a high blood pressure usually obtained. Reference was made to the occasional bad effect of delivery on the pre-eclamptic patient; and it was pointed out that even in the non-pre-eclamptic patient delivery might be followed by anuria. This was explained by supposing that at the time of delivery the kidneys were in a state of stress, all the cortical tubules being distended and the capsule investing the organ being already tight. On emptying the uterus the pressure on the kidney was greatly reduced, but the organ, because of its capsule, could not expand. Thus blood from the renal artery was unable to enter the cortex, and was thus forced into the expansile medulla, engorging this part and effectually preventing the exit of urine from the cortex. Proof of this conception was afforded by the evidence of decapsulation: the way this operation worked was shown. The conditions arising in pregnancy were similar. The renal lesion of eclampsia was due to an inability of the urine to escape from the cortex: this prevented blood entering the cortex, and thus the renal cells suffered degeneration and necrosed.

This paper was discussed by Drs. FAIRBAIRN, HOLLAND, and FITZGIBBON.

DOUBLE MONSTERS.

Dr. A. L. MUDALIAR (Madras) read a paper entitled "Double monsters—a study of their circulatory systems and some other anatomical abnormalities, and the complications in labour." Referring to the circulatory system Dr. Mudaliar showed a most interesting selection of specimens ranging in type from the very primitive, almost amphibian, character of the chambers to monsters with two almost separate hearts. The specimens comprised: thoracophagi, including tetrabrachius tetrapus, tribrachius dipus, and dibrachius dipus (anencephalic); syncephalic, including tetrabrachius and tetrapus; craniophagus; and ischiophagus. Dr. Mudaliar discussed their obstetrical significance, diagnosis, prognosis, methods of treatment, the separation of fused twins, and the *x*-ray findings.

Professor GATENBY (Dublin) spoke shortly on polyspermia as a cause of these conditions, and mentioned the experiment of Stochard in producing a cyclopean fish by changing the osmotic pressure of its medium.

Professor GREEN ARMYTAGE commented on the association of excess of liquor amnii with monsters, and stated that a large percentage of monsters were female.

FOETAL DEATH AFTER QUININE INDUCTION.

Drs. W. J. DILLING and A. A. GEMMELL (Liverpool) reported a preliminary investigation of foetal deaths following quinine induction. This investigation comprised a series of 765 cases in which quinine was used for induction, and the drug may have been responsible for eight stillbirths (1.04 per cent.). Judged from the point of view of weight gained or lost on the tenth day after delivery there was no evidence in a series of 201 cases that quinine had a detrimental effect on the nutrition of the children who survived. From the rate of excretion of quinine in the mother's urine the maximal concentration of the drug in her tissues after receiving three doses of 10 grains at hourly intervals occurred from the sixth to the eighth hour after the first dose, but the period of high concentration might persist until thirty-six hours afterwards. It was not possible to prove by the thalleioquin test the presence of quinine in foetuses of rabbits which received doses of quinine; nor in the liver or kidneys of an infant, stillborn within twenty-four hours of the last dose of quinine given to its mother. The presence of quinine to the extent of 0.015 per cent. was demonstrated in the urine of infants born six to twelve hours after the last dose of quinine to the mother. This concentration was held to be sufficiently high to merit investigation with regard to the toxicity of quinine on foetal tissues. No decisive evidence of quinine in the foetal (placental) blood was obtained. The presence of quinine nine to eleven hours after administration had been discovered in the liquor amnii to the extent of about 0.006 per cent.

PREGNANCY FOLLOWING OVARIAN RADIATION.

Dr. MILES PHILLIPS (Sheffield) read a paper entitled "A successful pregnancy following *x*-ray stimulation of the ovaries after ten years' amenorrhoea." He stated that a short review of the literature showed that a number of normally developed children have been born after *x*-ray therapy directed to the ovaries in certain cases of amenorrhoea accompanied by sterility. He described the case of a nullipara who after ten years of amenorrhoea had menstruated promptly after the treatment, and soon became pregnant. The child was delivered by Caesarean section. He gave details of the appearances of the ovaries. Dr. Phillips pointed out the necessity for correct spacing of the *x*-ray exposures in order to prevent radiation of the newly fertilized ovum.

Professor DAVIDSON (Dublin) mentioned a case in his practice of a woman, aged 40, who had been married for twenty years but had had no children. Her menses were becoming steadily more excessive. He tried *x* rays, using one-fifth of an erythema dose, and gave eleven exposures over a period of three weeks. The menses became less, and nine months later they stopped; pregnancy was found to have occurred and a normal delivery followed. It seemed clearly proved that instead of sterilizing the woman the *x* rays had stimulated the ovary.

Dr. JOHNSTONE (Belfast), concluding the discussion, urged the necessity of not regarding menstruation as the all-important factor. He reminded the meeting of cases of pregnancy occurring during lactation.

Dr. BETHEL SOLOMONS believed that there was a great future for this form of treatment; he had had several cases of menstruation following prolonged amenorrhoea. He believed, however, that *x*-ray treatment should be left until the last, and that trial should be made of hormonic preparations and other stimulating drugs.

Among the other papers read at the congress was one by Dr. G. I. Strachan (Cardiff) on the different methods of technique in the application of radium to uterine carcinoma. (A paper by Dr. Strachan dealing with this subject is published in this issue of the *Journal* at page 842.)

An exhibition of pathological specimens was arranged and aroused considerable interest. Various operations were demonstrated on the afternoon of the last day of the congress. A reception was given by the President and Mrs. Gibbon FitzGibbon at the Royal College of Surgeons during the evening of April 24th. The congress dinner was held at the Royal College of Surgeons on the following evening with the President in the chair.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE annual general meeting of the London and Counties Medical Protection Society was held on May 1st at Victory House, Leicester Square, under the presidency of Sir JOHN ROSE BRADFORD, P.R.C.P.

The council reported another year of useful work, with a substantial increase in membership. The new members elected during the year numbered 977, of whom 337, having applied for membership within a year of their registration, were exempt from entrance fee. At the end of 1928 the number of members was 11,492. Applications for advice and assistance were received during the year to the number of 1,067. In the majority of cases satisfactory results were obtained without litigation. The solicitors of the society again refer to the growing critical and litigious spirit of the general public. While the society had been spared spectacular legislation, there had been heavy calls upon its resources during the year, and the cases dealt with had been of unusual number and variety. Cases arising under the National Health Insurance Act were increasing. "It is a matter of surprise to us," say the solicitors, "that those responsible for watching the interests of the medical and dental professions, and bodies concerned in matters pertinent to those professions, are so powerless to prevent the growth of bureaucratic power which can usurp jurisdiction designed to give citizens the fairest form of trial, and can vest in one man, who, by virtue of his statutory powers of making regulations, can pass what are virtually laws affecting so large a number without their having a word to say antecedent to such regulations becoming effective, a power of decision and sentence without right of appeal." An extraordinary number of cases of the breaking of hypodermic needles in the course of injection came before the society during the year, and a legal decision as to responsibility would be of great value, but up to the present it has not been possible to get a test case.

Sir JOHN ROSE BRADFORD referred regretfully to certain losses by death, notably Dr. G. W. Hill, a regular attendant at council meetings, Sir Anthony Bowlby, a trustee, and Mr. A. Neilson, K.C., who for many years had assisted the society on its legal side. A great deal of the work of the society, said the president, arose from the unfortunate attitude sometimes taken by patients in their relations to members of the profession, but he was bound to say in the same breath that some of the work might be diminished if the members of the profession took more precautions, especially in safeguarding their interests in that class of case in which they were most liable to attack—namely, fractures. In many cases, even during the last year, the defence of members had been embarrassed because they had not made an *x*-ray examination or had not secured evidence of having advised such an examination and of the advice being rejected. He added that there was a slight deficit on the year's work—nothing like so much as in some former years, and not one to cause any anxiety in view of the strength of the society's assets and of the inevitability in such a society of single years or even a succession of years of abnormally heavy expenditure.

On the motion of Dr. C. M. FEGEN, Sir John Rose Bradford was re-elected president, with hearty thanks for his past services; Dr. Fegen himself was re-elected treasurer, with similar compliments. Other re-elections were of the vice-presidents, Dr. R. L. Guthrie taking the place of the late Sir Anthony Bowlby; and of the retiring members of council, with the addition of Mr. William M. Morrison. A hearty vote of thanks was accorded to the society's solicitors, Messrs. Le Brasseur and Oakley, upon the soundness of whose advice and judgement, said Sir John Rose Bradford, the society had had occasion to rely on innumerable occasions, to its great satisfaction.

INTERNATIONAL CONGRESS OF MILITARY MEDICINE AND PHARMACY.

LONDON, MAY 6TH TO 11TH, 1929.

THE fifth International Congress of Military Medicine and Pharmacy was held in London from May 6th to 11th. It was attended by nearly 800 members, including official delegates from close upon forty countries, as well as from the League of Red Cross Societies and the International Committee of the Red Cross. The House of the British Medical Association in Tavistock Square was the Congress centre. The Great Hall was used for the principal meetings, and the newly completed extension accommodated the reception office, a large exhibition of service equipment, and writing and club rooms for the members and the ladies accompanying them.

The varied and spectacular character of many of the foreign uniforms excited much public interest. When the members gathered in the quadrangle on Monday morning for a panoramic photograph they presented a kaleidoscope of colour. While the British khaki and the French blue predominated, a gorgeous note was struck by some of the head-dresses and breast decorations of the visitors. The delegates then visited Westminster Abbey, where, in the north transept, a procession was formed to the Tomb of the Unknown Warrior. Here the procession was awaited by the Dean and Canons, and a wreath was deposited.

On Monday afternoon the opening ceremony took place in the Great Hall, the platform of which was decorated with large banks of hydrangeas, roses, and other flowers. The Secretary of State for War, Sir Laming Worthington-Evans, Bart., M.P., performed the opening ceremony. He was supported by the President of the Congress, Lieut.-General Sir Matthew H. G. Fell, K.C.B., Director-General, Army Medical Services, Sir Ewen Maclean, President of the British Medical Association, and by two distinguished foreign delegates—namely, General Lanne of the French Army Medical Services, and General Stanislas Rouppert, Director of the Medical Services of the Polish Army, and President of the fourth congress, held at Warsaw in 1927.

Others on the platform were:

Surgeon Vice-Admiral Gaskell (Medical Director-General of the Navy), Air Vice-Marshal D. Munro (Director of Medical Services, Royal Air Force), Sir Leonard Rogers (Medical Adviser, India Office), Colonel Sir Lisle Webb (Director-General of Medical Services, Ministry of Pensions), Sir John Rose Bradford (President, Royal College of Physicians), Major-General Sir Alfred Blenkinsop (representative of the British Medical Association on the Organization Committee), and the following delegates from abroad:

Surgeon-General Hugh S. Cumming (chief of American Public Health Service), Major-General Bauar (Director-General, Swedish Medical Service), Don Agustin Van-Baumbergher (Spanish Ministry of War), Major-General Commandante Umberto Riva (Italy), Tenente Colonello Dr. Arturo Casarini (Italy), Major-General J. C. Diehl (Netherlands).

WELCOME BY THE SECRETARY FOR WAR.

Sir LAMING WORTHINGTON-EVANS, in formally inaugurating the Congress, welcomed the delegates from the various countries, also the representatives of the Red Cross and Voluntary Aid Societies, whose beneficent work had done so much to alleviate the hardships of war. It was inspiring to think that in the field of medicine, at any rate, the nations of the world had reached a unanimity of aim and endeavour which was still far to seek in the realm of international politics. The reason was that the medical and nursing services in the different countries were all ranged on the same side against a common enemy—namely, disease and injury—and the cause which they all served transcended those rivalries and differences which added such difficulty to the statesman's task. Was it not inspiring, too, that in the sphere of military medicine it was possible to meet together and exchange freely the fruits of separate research, secure in the knowledge that, whatever might happen in the future, these would never be used save in the name of humanity?

"Yours," said Sir Laming, "is an easier task than that of the statesman. You can identify the enemy against which you are combining. You may not always know whence he comes and whither he goes, but you can recognize him as an enemy. The statesmen are in greater difficulty. While wishing to combine against war as you combine against disease, they cannot so easily identify the cause of war. You are leading in this matter of co-operation, and I hope the statesmen may follow with equal success."

The Minister then commented on the variety of the programme provided, including as it did visits to the naval centre of Portsmouth, the military station of Aldershot, and the establishments of the Royal Air Force at Halton. He thanked the British Medical Association for so generously placing at the disposal of the Congress its magnificent hall and other buildings.

It had been intended that at the conclusion of the ceremony in the Great Hall the War Secretary should proceed to the Exhibition and open it, but owing to a meeting of the Cabinet which called him away he was unable to fulfil this part of the programme. He did, however, visit the exhibition before leaving.

THE PRESIDENT'S INAUGURAL REMARKS.

Lieut.-General Sir MATTHEW FELL, the President of the Congress, said that the British members of the Services extended a most hearty welcome to their colleagues from all parts of the world. This Congress was the fifth of a series which had taken place since the Armistice, the others having been held in Brussels, Rome, Paris, and Warsaw. The congresses had their origin in the meetings of the consulting surgeons of the inter-allied armies in the West during the war. Dr. Tuffier of Paris, who was president of those inter-allied conferences, had been deeply impressed by the benefits derived from them, and was desirous that some means should be found of continuing in peace the international exchange of ideas and experiences which had been so profitable in war.

The medical services of armies must necessarily function in accordance with the principles and limitations required by the army organizations which they existed to serve. To some degree, consequently, they must vary in every army, just as they must vary with the climate and terrain in which they operated. During the progress of war there were limits prescribed by purely military necessity. But the main objects of the services were the same for all armies—namely, the maintenance of the highest standards of hygiene and sanitation, and the elaboration of an organization which, with the least possible delay, could bring to the sick and wounded the fullest benefits that medical science could apply. Within these service medical organizations functioned the Red Cross and the great voluntary aid societies, without whose generous and freely given assistance the lot of the stricken soldier in war would be still harder.

Those who read the story of medical aid in war (continued Sir Matthew Fell) could not fail to be struck by two things. The first was, quite apart from any humanitarian considerations, the comparatively recent acceptance of the advantages to an army, both in peace and in war, of a highly organized medical service. It was true, as might be seen by memorial tablets erected at York and on the Roman wall and in other places in Great Britain, that two thousand years ago the Roman legions possessed their own medical service. But it was not until the Napoleonic wars at the beginning of the last century that any real advance was made in medical organization. In the middle of that same century, again, the war in the Crimea gave to history the name of Florence Nightingale, and opened to women of education and position the service of nursing, both military and civil. The Geneva Convention and the vast developments of the International Red Cross had their origins even within living memory.

The second impression from the study of medical aid in war related to the indubitable effect which war had had

in accelerating the general application of the discoveries of medical science. He recalled being present in that hall two years ago at the centenary celebrations of the birth of Lord Lister, and although only one of those who gave addresses on that occasion referred to the benefits which Listerism had brought to the wounded in war, it was impossible not to feel certain that, at any rate on the Continent of Europe, those nations who nearly sixty years ago saw their wounded die by the thousand of surgical infections had felt urged to press forward—and had in fact pressed forward—the principles which Lord Lister preached, but which in England were only tardily accepted. Anyone who cared to read the short personal account by the late Sir William MacCormac of his experience with an ambulance in the war of 1870 must feel that that was true. Again, the more recent British experience of the war in South Africa, with its terrible losses from enteric disease, undoubtedly stimulated the brilliant band of research workers, whose names would occur to all those assembled, in the elaboration of a method of prevention by vaccine treatment which had proved of benefit to humanity throughout the world.

In conclusion, Sir Matthew Fell mentioned the many difficulties attendant upon the preparation for such a Congress as the one now beginning. Not least among them was the fact that the people of our island nation lacked a knowledge of other languages than their own, which he trusted the visitors from other countries would pardon. He also thanked the British Medical Association for the generous offer of its House. His final word, which elicited hearty and general applause, was an expression of his belief that the efforts of statesmen throughout the world to-day to make war impossible were watched by none with more sympathy than by the members of the medical services, whose sphere of duty brought them into intimate contact with all the horrors which war involved.

RESPONSES FROM DELEGATES.

M. LANNE, Inspector-General, French Army Medical Services, acknowledged on behalf of the visitors the welcome extended, and made a sympathetic reference to the King's illness, praying for His Majesty's complete restoration, and affirming that his illness had evoked the sympathy of the whole world. In pooling the knowledge and experience gained by the various medical services the Congress was assisting the cause of humanity.

General STANISLAS ROUPPERT, Director of Medical Services of the Polish Army, said what pleasure it gave him to be present, more especially as he had presided over the previous Congress, held in Warsaw. His fellow officers in the Polish Army regarded these Congresses as a unique opportunity for instruction and encouragement.

THE EXHIBITION.

After these proceedings a move was made towards the exhibition, in which the delegates and members spent some time. In the trade exhibition about seventy firms contributed; almost all of them were familiar to visitors to the exhibition at the Annual Meetings of the British Medical Association. In addition to the commercial display, there was a service exhibition of the equipment used in the Royal Navy, the Army, and the Royal Air Force. This included medical and surgical stores for service afloat; apparatus employed in the investigation of ventilation conditions in H.M. ships and naval establishment (shown by the Department of Hygiene, Royal Naval Medical School, Greenwich); army field medical equipment, and the medical equipment of the Royal Air Force. Among the items of special interest in this last exhibit were the Reid flying aptitude apparatus, Flack's rebreather bag, and the rotating chair, sphygmomanometer, and other apparatus used to ascertain the effects of rotary movement; also electrically heated clothing for high altitude flights.

RECEPTION BY THE PRINCE OF WALES.

The principal delegates were afterwards received by the Prince of Wales at York House; they were presented to His Royal Highness by Sir Laming Worthington-Evans.

GOVERNMENT DINNER.

On Monday evening, at the Hotel Cecil, a dinner was given by the Government to the principal official delegates and distinguished visitors. About 120 sat down at the tables under the presidency of the Right Hon. Sir Laming Worthington-Evans. Among British medical men, in addition to the principal officers of the services invited to meet the guests from abroad, were the following: Sir John Rose Bradford, P.R.C.P., Lord Moynihan, P.R.C.S., Sir Lenthal Cheatle, Sir Richard Luce, Sir Ewen Maclean (President, British Medical Association), Mr. N. Bishop Harman, Sir George H. Makins, and Lieut.-Colonel C. T. Samman (Master of the Apothecaries' Society).

The oratory was brief, because the tireless visitors had still another engagement in the shape of an official Government reception at Lancaster House. After the toasts of "The King" and of "The Sovereigns of the Kingdoms and Presidents of the Republics represented" had been honoured, Sir LAMING WORTHINGTON-EVANS proposed the health of "The Guests." He expressed the hope that the friendships formed at the Congress would outlive the few days of the meeting. These congresses were of immense value, he believed, from the professional point of view, but they had also a wider significance because they fostered international understanding, and helped to form a public opinion in all the countries represented, which would be of real assistance to the labours of those working in the interests of world peace. It was difficult for a layman to keep pace with the advances made in medical science. Experience in the great war showed that on the Western Front the risk of death from disease was much smaller than the risk of death from enemy action, whereas in all former wars in the same area the balance of risk was reversed. In peace time also the standard of health maintained in the armies was not unimportant. Thanks to the medical profession, noteworthy advances had been made, to the benefit of officers and men, as well as to the relief of the public purse.

Brief replies were made by General STANISLAS ROUPPERT (Poland) and General DEMOLDER (Belgium). The former referred to the great traditions of British medicine and military science. The latter similarly praised the British people, not only for their eminence in arts, literature, commerce, and industry, but for their great example in charity.

THE FIRST SESSION.

EVACUATION OF SICK AND WOUNDED.

The first discussion of the Congress took place on Tuesday morning, under the presidency first of Surgeon Vice-Admiral GASKELL, and later of Air Vice-Marshal MUNRO. The subject was the evacuation of sick and wounded by water and by air.

Evacuation by Sea.

Surgeon-Commander A. VAVASOUR ELDER, R.N.V.R., dealing with evacuation by sea, drew attention to the various administrative and clinical problems of water transport. Such transport, he said, was invariably subject to local and weather conditions, so that it was impossible to lay down any fixed routine. He described the various methods of transferring cases by hoisting. He also put forward as a constructive suggestion for inquiry as to practicability the establishment of a water transport service, in future instances of combined naval and military operations, for casualties in all branches of the armed forces. This would be organized and operated by the Naval Military Service, the land transport of sick and wounded being allocated to the military medical authorities, and cases requiring transport by air would naturally be dealt with by the Air Force Service. On the clinical side, he mentioned the use of morphine, saying that while its administration could not be left to the initiative of unqualified persons, more lives after action had been lost through unrelieved "shock" than by the administration of this drug. The sedative effect of tobacco should be remembered, and, except in cases of gas poisoning, cigarettes and matches provided.

M. OUDARD, Médecin en chef de la Marine Nationale, spoke of the construction of the hospital ship, which, he said, must be very seaworthy, strongly built, stable, and silent, with the minimum of vibration; the average size should be 8,000 tons, and the speed 15 knots. The wards should have from 25 to 100 beds, with not less than 6 cubic metres of air per person. Isolation wards and one or more padded cabins should be provided. Surgical services should be on deck in one or more complete operating rooms. He also spoke on the several problems of international law which were raised by the evacuation of wounded by sea, which would justify a revision of The Hague Convention of 1907.

The Air Ambulance.

Group-Captain HARDY WELLS, R.A.F., introduced the subject of evacuation by air. The aeroplane, he said, was the quickest and easiest means of transport. It enabled serious cases to be treated early, and hospitals to be centralized, thus making for economy in hospitalization. Its limitations were those imposed by weather, and also the necessity of having landing grounds adjacent to hospitals. The employment of the aeroplane depended very much on the type of war, whether a "great war," a "small war," or a "tropical war." In a great war, with the front line continually under shell fire, the employment of aircraft on ambulance work in the area would be impossible. The nearest position for such work would be somewhere outside this area. The plan he suggested was to have advanced mobile hospitals, with landing grounds reasonably adjacent, connected by a light railway. It could not be expected to clear large numbers by air, but those serious cases which crowded up the clearing hospitals could be sent down to the stationary or base hospitals by this means. In a small war, with a force operating from an established base, and columns moving up, casualties could be removed direct from the field ambulance to stationary hospitals, the air route being extremely useful when the intervening country was unsafe. Aircraft solely employed on ambulance work should be under Red Cross protection. Difficulty would arise as to identification, and he suggested that the whole aeroplane be painted red and a red cross with white edges picked out.

Lieut.-Colonel SCHICKELÉ (France) said that ambulance aeroplanes must now be considered a routine method of evacuation. In a European war, if they were used on a considerable scale, they must be made in large numbers and be chiefly of the large carrier type. It did not seem possible, however, for the large aeroplane to get beyond the army corps area (10 to 15 kilometres from the front), though the small aeroplane might be in contact with the medical divisional formations (5 to 8 kilometres). The helicopter should give new facilities in the front area. With regard to the airship, he could not contemplate this means for the evacuation of casualties. The seaplane, again, would always be less seaworthy than the boat, and could only be used with any chance of success in a calm sea. In naval warfare its use was problematical, and apparently would be restricted to the rendering of aid to damaged battleships which had taken refuge in sheltered roadsteads. The use of ambulance aeroplanes raised several problems of international law for which a solution should be sought.

The other speakers who briefly participated in the discussion were Colonel SAINT-SERNIN, Colonel A. VAUDREMER, and Colonel H. S. ROCH. The last-named gave an interesting account of his experiences with a small military column, 5,000 strong, on the frontier of Kurdistan in 1923. The country was almost inaccessible, and evacuation by any other means than air would have been of the utmost difficulty. It would have meant hand carriage for any period from two to eight days; but through the help of the Air Force it was possible to move the casualties the same distance in four hours with the utmost comfort. The limitations of which Group-Captain Wells had spoken were exactly those which he had experienced in Kurdistan—namely, weather and landing grounds. While his column was in a hopeless part of the country there was constant rain for a fortnight, and the camp became a perfect morass, a sea of mud, in which it was hopeless to operate. Under these conditions a man went down with acute appendicitis, in which immediate operation was desirable. An S O S was sent to the Air Force, which dispatched a machine, but on two successive days the weather prevented landing. On the third day the weather cleared, and the plane landed and took away the man, who within a few hours was on the operating table, and made a good recovery. The method was to wrap him in blankets, in the army stretcher, which was strapped to the machine-gun fitting in the plane. With regard to landing grounds, Colonel Roch said that he could also speak from experience of some of the roughest country it was possible to find. No landing was possible nearer than twenty-five miles, and there were 150 sick and wounded. The serious cases were carried on stretchers, the others put on donkeys, and it was three days before advantage could be taken of the help of the Air Force, though even so, if it had not been for the Air Force, he did not know what would have happened. But what was wanted from the Air Force was a plane which would land in any weather on any ground, and take off "from a threepenny bit." A third difficulty was fatigue and stress of the pilots. Group-Captain Wells had rather suggested that the work of piloting the wounded was less trying than ordinary air fighting, but Colonel Roch's experience was that these young pilots were full of zeal and ardour when it was a question of bombing places, but the responsibility of carrying wounded affected them more than might have been anticipated. The time arrived, indeed, when the aeroplanes were used only for the most serious cases, simply on account of the wear and tear experienced by these gallant pilots.

VISITS TO ALDERSHOT AND PORTSMOUTH.

The discussion was over in time to permit of the members journeying to Aldershot, which they did by char-a-banc. On arrival, they were separated into parties, and visited various places of interest, including the R.A.M.C. training centre, the Cambridge Hospital, the dental clinic, the Army School of Hygiene, the R.A.S.C. formations, as well as barracks, regimental institutes, and the supply and transport organizations. After tea they witnessed, on the central sports ground, a gymnastic display by members of the Army School of Physical Training. On returning to London they were the guests at a conversazione at the Royal College of Physicians and a reception at the Royal College of Surgeons.

The whole of Wednesday was devoted to a visit to Portsmouth, where the visitors were guests of the Lord Mayor and Corporation at the Guildhall, and of the officers at the Royal Naval Barracks. H.M.S. *Victory* and H.M.S. *Hood* were visited, as well as the Royal Naval Hospital, Haslar, and the submarine depot at Fort Blockhouse.

RECEPTIONS.

A conversazione in honour of the delegates was held on the evening of Tuesday, May 7th, at the Royal College of Physicians. The guests were received in the Library by the President, Sir John Rose Bradford, and Lady Bradford. In one of the upper rooms an interesting exhibition had been arranged of portraits and books in the possession of the College illustrative of naval and military medicine. An attractive programme of music was provided by musicians from the band of H.M. Welsh Guards.

There was also an evening reception on May 7th at the Royal College of Surgeons, where the President, Lord Moynihan, and Lady Moynihan welcomed the delegates and their friends. Sir Arthur Keith, conservator of the museum, gave an epidiascope demonstration in the lecture theatre of various museum specimens illustrating design in nature. The army medical war collection was a centre of attraction, and many Hunterian relics, portraits, and other objects of interest were displayed. A portion of the Royal Artillery band rendered a selection of music during the evening.

A report of the later proceedings of the Congress, which included discussions on tropical fevers, wounds of blood vessels, and the standard of physical fitness, will appear in the next issue.

British Medical Journal.

SATURDAY, MAY 11TH, 1929.

CHRONIC DEAFNESS.

THE progress of aural surgery in the treatment of middle-ear suppuration, with its attendant labyrinthine, intravenous, and intracranial complications, has been so remarkable that it has perhaps obscured the claims upon the otologist of those who are only deaf. The discussion held last week by the Section of Otology of the Royal Society of Medicine on the subject of chronic deafness had the merit of showing what has been done for the alleviation and cure of this disability, and of taking stock of the methods at present adopted for its prevention and treatment. There can be no doubt that the success of preventive measures—for example, the removal of adenoids in early life, or the prompt treatment of middle-ear suppuration, which nowadays is only rarely allowed to become chronic—has received less credit than it deserves. While, however, there are substantially fewer deaf persons haunting the out-patient clinics and the consulting rooms of otologists, their number is still a standing reproach to modern aural surgery.

Without entering into a detailed classification of pathological types of deafness, it may be said briefly that changes in the middle ear, disease of the cochlea or of the auditory nerve, and that mysterious disorder otosclerosis, account for practically all cases. It has been contended that study of the pathology of deafness has resulted in nothing but a therapeutic nihilism, nearly everything that has been done for its practical relief having originated in mere empiricism. This statement, while it is unduly sweeping, and certainly unjust to those who have scientifically studied the morbid anatomy of the ear, contains some truth, and accounts for the number and variety of the methods of treatment recommended. Their very number, admittedly the product of a commendable activity in the otological microcosm, is evidence of the inefficiency of each method individually. It is conceded on all sides that the basic and well-established treatment of chronic deafness is the removal of septic tonsils, whose presence is often overlooked, the drainage of any focus of infection in the nose, and inflation of the tympanum by the Eustachian catheter or the method of Politzer. When these measures have failed, as they often do, the otologist still finds himself confronted with the maze of remedies which have been tried and discarded and then revived again, and also with some newer methods still on trial. Thus there are those who still employ inflations of vapour into the tympanum, massage, and ionization. Recently massive intravenous doses of colloidal iodine have been tried, but as they may well cause obliteration of veins the method is unlikely to come into general use. Diathermy has given benefit, and has been found to relieve the tinnitus aurium which is so often a distressing concomitant of deafness. Ultra-violet light has naturally been given a trial, and the apparatus of Zund-Bourguet is still in active use. Dr. Cathcart claimed at last week's meeting that of 623 patients treated by this apparatus 396 (63 per cent.) were improved, but it is impossible to say how many (and this is true of the claims made on behalf of most forms of treatment) were cases of functional deafness. The hard of hearing become inattentive; if they do not listen they do not hear, and they develop an epiphenomenon, a functional deafness, "the malady of not marking." The most satisfactory report came from Mr. Eric Watson-Williams, who has found that some patients with otosclerosis, which has an ill-defined but generally accepted relation to calcium metabolism, are benefited, even cured, by extract of parathyroid gland in large doses. There is one form of treatment—namely, operation on the middle ear—which seems to have been abandoned definitely and permanently. This method has had a fair trial, but on the whole without good result. The difficulty of obtaining a sterile field of operation entails the risk of provoking a middle-ear suppuration, with all the attendant consequences and possibilities, and little is now heard of stapedectomy and intratympanic tenotomies.

Behind all this, however, as the president (Mr. Somerville Hastings) wisely observed, lies the fundamental difficulty of testing the hearing efficiently. It frequently happens that the patient is pleased with treatment, and says he hears better, although tests of hearing show no improvement. The opposite also is true: the patient may show an improvement to hearing tests without obtaining any subjective benefit. We may conclude that, although a great deal can be done for deafness and tinnitus even to-day, it is not likely that much advance will be achieved by methods founded on empiricism. There must first be developed more satisfactory methods of testing the power of hearing and estimating its changes, and new methods of treatment must be established on a rational pathological basis. It may be gratifying to produce a subjective increase of hearing and diminution of tinnitus, but this by itself should no longer satisfy the modern student of otology with a scientific training. The introduction of new and better methods of treatment will entail much laborious research, both clinical and pathological.

THE PARLIAMENT OF 1924–29.

THE sixth Parliament of the reign of King George V ended this week after a busy life of four and a half years. The dissolution might legally have been postponed till the autumn, but poor attendances in both Houses, perfunctory debates, and the mortality among members of the House of Commons had shown during late months that the present Parliament was exhausted. Whatever the political complexion of the Parliament to be elected on May 30th, it will contain many new members, some of them probably women, though it is noteworthy that the extension of the franchise to women over 21 has not been followed by the nomination of more than a few scores of women candidates. Practically all the medical men in the late Parliament will offer themselves for re-election. The extension of the franchise to millions of women electors, giving them a numerical superiority over men in almost every constituency, is generally regarded as the chief work of the Parliament now closed, but constitutional authorities will attach equal importance to the events of 1926, when the Government withstood and broke the general strike, and of 1927, when Parliament passed the Trade Disputes and Trade Unions Act, by which general strikes were made illegal and civil servants were forbidden to be members of external associations with political objects. The events of these two years cut deeply into the time available for normal legislation, and in view of the loss of revenue during 1926 the Treasury was necessarily hesitant in approving schemes for the extension of social services.

The reduction of the State contributions to national health insurance, carried on the proposal of the Chancellor of the Exchequer, has, according to his critics, restricted the granting of additional medical and other benefits by approved societies.

Despite these preoccupations, and difficulties over time and money, the legislative output has been high, particularly in bills bearing on medical subjects and the public health. This Parliament's interest in the public health found expression even at its close in the many questions on the purchase of radium for medical purposes and on the reports of the Interdepartmental Committee on Mental Deficiency. The Parliamentary Medical Committee, comprising medical M.P.'s and university members, influenced opinion and guided policy both in the Ministry and in the Opposition parties. In the House of Lords Lord Dawson of Penn, lately joined by Lord Moynihan, has presented the point of view of the profession, notably on the Local Government Bill, in speeches of conspicuous ability. Non-medical members, too, who were fortunate in obtaining good places in the ballot, rendered useful service by introducing bills on public health subjects; several such bills were helped in the later stages by the Government, and have become law. Nevertheless, the chief credit for the large and valuable output of public health legislation introduced during the period under review rests with the Minister of Health, Mr. Neville Chamberlain, the Parliamentary Secretary of his department, Sir Kingsley Wood, and the Under Secretary for Scotland, Dr. Walter Elliot. During his period of office Mr. Chamberlain has brought a comprehensive legislative scheme to a successful issue. Mr. Churchill, by providing pensions for widows and orphans and by giving insured workers pensions at 65, reduced the calls upon the old Poor Law. Mr. Chamberlain then took powers to supersede certain boards of guardians, standardized valuation, and, with the aid of Mr. Churchill, altered the basis of local rating. He codified the Poor Law, including its public health provisions, and in 1925 secured the passage of a Public Health Act, giving local authorities larger powers to deal with infectious disease. The passage of the Local Government Act abolished elected boards of guardians, and converted county councils and county borough councils into the chief public health authorities entrusted with the administration of the Poor Law, and allowed them to deal under the relevant statutes with many matters relating to the public health. Under the terms of this Act workhouses, infirmaries, and other public institutions revert to the new public health authorities, whose duty it will be to reclassify them and to secure their best use according to schemes which must be submitted to the Ministry. Mr. Chamberlain hopes that by this reclassification much accommodation will become available for the use of the sick and of mental defectives. A similar Act has been passed for Scotland. Only during the closing stages of these bills in the House of Lords were their medical aspects discussed, and then largely through the insistence of Lord Dawson, who directed the attention of Parliament and of the country to the manner in which they might weaken the voluntary hospital system.

The administration of the Ministry of Health during the past four and a half years has ensured steady building of houses with public assistance, though slum clearance is only now being placed in the front of the Government's programme. Great progress has been made in schemes for the promotion of maternal and child welfare; and the Government has denied the suggestion, expressed in the course of debate, that the new block grant system introduced under the Local Government Bill will check the extension of this work. All parties have now pledged themselves to make special efforts to reduce maternal mortality, and Mr. Chamberlain has lately told the House that investigations conducted by general practitioners of the country under the auspices of the British Medical Association had already contributed to this end.

Other measures of medical interest passed during this Parliament include the Housing (Scotland) Act, the Criminal Justice Act, the Lead Paint Act, the Births and Deaths Registration Act, the Smoke Abatement Act, the Coroners Act, the Nursing Homes Registration Act, the Midwives and Maternity Homes Act, the Midwives and Maternity Homes (Scotland) Act, the Mental Deficiency Act, the Food and Drugs Adulteration Act, the Medical and Dentists Acts (Amendment) Act (confirming an agreement with the Irish Free State over the *Medical Register*), and the National Health Insurance Act, 1928, which authorizes specialist medical advice and surgical treatment as additional benefits. The control and compulsory notification of venereal disease was raised in a bill which failed to pass the House of Commons. This, the Edinburgh Corporation Bill, aroused very strong feelings in the House, and showed that few M.P.'s are willing to accept medical opinion when they think it conflicts with the liberty of the subject.

THE NATIONAL RADIUM FUND.

It is gratifying to note that the National Radium Fund, for which an appeal had been launched in the *Times* of April 29th, was already over-subscribed on May 6th. We explained last week (p. 820) that the appeal for £150,000, the amount required for the National Radium Fund, was being made conjointly with a special appeal by King Edward's Hospital Fund in aid of the hospitals in the metropolitan area, as a thank-offering for the King's recovery, the latter project having for its nucleus the 100,000 guineas offered by an anonymous donor. The treasurer of the combined appeal is Lord Donoughmore, and its two branches, sharing a common office organization, have been administered throughout in the closest co-operation. Lord Donoughmore, in a letter to the press dated May 4th, has indicated that, the money required for the National Radium Fund having been subscribed, all connected with King Edward's Hospital Fund would wish that the needs of hospitals outside the metropolitan area should be more directly associated with the Thank-offering Fund. While the desire of donors outside London to help their own hospitals could be met by the opening of local funds, he suggests that if they prefer to send contributions to the offices of the Thank-offering Fund, at 103, Kingsway, W.C.2, ear-marked wholly or partly for hospitals in which they are particularly interested, care will be taken that their gifts are allocated in accordance with their wishes. In a letter to the *Times*, published on May 2nd, the Prime Minister expressed, on behalf of His Majesty's Government, the deep gratification with which they had seen the swift and spontaneous response of the public to the opportunity of manifesting its relief at the lifting of the shadow which lay over the country during the King's illness. With the £154,779 already in the National Radium Fund, and the Government's contribution of £100,000, practical steps could be taken to bring the benefit of radium treatment to many who would otherwise have waited for it in vain. The Prime Minister suggested that the people could best complete their thanksgiving in its outward and visible aspect by contributing, as far as lay in their power, to the continued maintenance and prosperity of the voluntary hospitals of the country.

LEPROSY OUTSIDE THE BRITISH EMPIRE.

THE increasing number of references to leprosy in these columns recently will have made it clear to our readers how greatly the old pessimism with regard to this disease has been modified by the improved methods of treatment which have been introduced. A short note on the position as regards the British Empire appeared on March 30th (p. 612), and the story of the campaign against leprosy may be conveniently amplified now by a reference to what is occurring in foreign countries. In previous years the League of Red Cross Societies published a monthly review entitled *The World's Health*; this periodical is now issued quarterly, and its issue covering the first three months of 1929 illustrates one advantage of this change—namely, that reports can now be grouped, the topic in the present instance being leprosy. Describing the position of leprosy in Japan, Dr. Rokuro Takano mentions that the country is now divided into five areas, each of which has its own sanatorium. A national sanatorium has been built on an island situated off the west coast, and in addition to these sanatoriums there are a number of small institutions, but most of the lepers in Japan remain in their homes. A scheme to create a leper settlement in a suitable district is receiving the careful consideration of the Government, which will have to provide part of the funds for its maintenance in view of the fact that the majority of lepers are destitute. A movement is on foot to organize a national prophylaxis institute with the aim of hastening the enlargement and improvement of existing hospitals and directing a campaign against the disease. Investigations in November, 1925, showed that there were over 15,000 lepers in Japan, the disease being more than twice as common among men as among women. While a certain number of cases may have been overlooked, it is believed that leprosy is decreasing definitely in Japan. Prince Vallabhakara, who is director of the Health Section of the Siamese Red Cross Society, mentions that a clinic and an asylum have been established in and near the capital. We have previously referred to the valuable work in Southern Siam of the American Presbyterian Mission, and to what is being done by the British and American Missions for Lepers at Chiengmai in Northern Siam (*Journal*, June 23rd, 1928, p. 1071). Importance is attached to establishing better co-ordination between the various agencies operating against leprosy in a country where it is admitted that a large number of lepers are under no control of any kind. Professor Jorge Bejarano, in a brief note on the energetic attempt made in the Republic of Colombia to deal with leprosy within its frontiers, states that three settlements have been established and are doing well. He considers that the disease is undoubtedly brought into his country from Europe, and that the number of lepers in Colombia is far less than is generally thought. The management of the leper settlements is entrusted to a director-general, who is responsible to the Ministry of Education and the Ministry of Public Health. The high incidence of leprosy in Mexico was mentioned in a note in the *Journal* on January 26th (p. 165). Leprosy in Central and Southern Europe is the subject of the second of a series of communications by the Rev. J. E. Abbott in the April issue of *Leprosy Notes*, the quarterly periodical of the British Empire Leprosy Relief Association; he reports the conclusions reached after a tour made with a view to gaining first-hand knowledge of this matter. No evidence was discovered of leprosy in Poland, Austria, Czechoslovakia, or Hungary, but it is present in Jugoslavia, Italy, and in Switzerland where it was once endemic. There is one small leper colony in the south of Sardinia, and it is hoped to provide more facilities for clinical treatment and segregation in other parts of Italy. Mr. Abbott attributes this freedom of Central Europe to the fact that none of the countries concerned have colonies in lands infested with leprosy, nor have they any special connexion with such lands. He believes that South America furnishes Europe with a large number of her lepers. The position in this respect in Bulgaria, Greece, and Albania is unknown, but the author estimates that there are at least 1,600 lepers in Central and Southern Europe. In the same issue of *Leprosy Notes* there is an article on leprosy in the Dutch East Indies, by Lieut.-Commissioner Palmer of the International Headquarters of the Salvation Army. He reports that the Dutch East Indian Government is energetically coping with the disease, and that the lepers are coming for treatment in increasing numbers. It is hoped to build a large leper hospital in Batavia, and all possible help is given by the Dutch Government to the various leper colonies under the care of voluntary societies. Finally, it may be remarked that in the April issue of *Without the Camp*, the quarterly magazine of the Mission to Lepers, interesting short notes will be found on the present position in Japan, China, Korea, and the Federated Malay States.

POISON GAS IN WARFARE.

ON April 30th, at the session of the Preparatory Commission for Disarmament Conference held at Geneva, Lord Cushendun announced that, subject to certain reservations, the British Government had decided to ratify the Geneva pact of 1925 against the use of asphyxiating and poison gas and bacterial weapons in warfare. The reservations were to the effect that His Majesty's Government would be bound only in relation to those other States who had ratified the protocol and adhered thereto, and would cease to be bound by the protocol in relation to any enemy States whose armed forces or whose allies did not respect it. Lord Cushendun added that he made this announcement, at their request, also on behalf of the Governments of Australia, New Zealand, South Africa, and the Irish Free State, and his statement was followed by one from the Canadian delegate, Dr. Riddell, who said that his Government also had decided to ratify the protocol subject to the same reservations concerning reciprocity. The protocol in question binds the contracting parties, so far as they are not already bound by other treaties prohibiting the use of asphyxiating, poisonous, or other gases, and of all analogous liquid, materials, or devices, to accept such prohibition, and to extend it to the use of bacterial methods of warfare. It comes into force for each State from the moment its ratification is deposited. This protocol is to be welcomed as an instrument of propaganda against the use of inhumane methods in warfare. It gives some expression to the revolt of civilized persons against methods of warfare that, by their nature, cannot discriminate between soldiers and non-combatants. It makes articulate a common sentiment which may become powerful enough, even when war is actually in progress, to hinder the efforts of those persons who naturally would tend to use the most lethal weapons at their command. The weakness of this protocol, as of all similar pacts, is that arrangements made dispassionately in peace time generally have little power to bind in time of war. During the great war ships were sunk without notice and the transit of food destined for the civilian population was interfered with, though both these acts were contrary to international law. In this connexion we may recall that the use of asphyxiating gases in warfare had already been prohibited by the Hague pact of 1907, to which the majority of powers were parties. It may be noted that there is nothing in the protocol to prevent a signatory from using poison gas and bacterial methods as a reprisal, and it may be questioned whether modern warfare can be conducted even for a single day.

without creating what may be interpreted as occasions for reprisals. A rumour, a false report even, that the enemy is using inhumane methods of waging war may become a pretext for regarding the provisions of the protocol as no longer binding.

MAKING THE MOST OF SUNSHINE.

WHATEVER may be the outcome of the controversy about artificial sunlight, it will be agreed that the natural variety is better, and it ought to be a national endeavour to make the most of it. The antirachitic virtues of sunlight are due to certain of the ultra-violet rays, but actually there is only a very narrow zone of effective solar rays, and the intensity of this portion of the spectrum falls off very rapidly. This rapid falling off is due to absorption by the earth's atmosphere, and has been attributed to ozone in the outer limits, and to smoke, dust, and moisture in the lower layers. A marked seasonal variation in the prevalence of rickets has long been recognized, and this can be correlated with a seasonal variation in the antirachitic value of natural sunshine. The question as to what produces this variation has been studied for some years, and in a recent paper[1] Drs. F. F. Tisdall and Alan Brown of Toronto discuss the altitude of the sun in relation to its antirachitic effect. They used for their experiments rats fed on a diet calculated to produce rickets, and the animals were exposed daily to the sun's rays during the spring and autumn of 1927 and the spring of 1928. The time of day during which the animals were exposed, the duration of the exposure, and the exact altitude of the sun in Toronto at the time of the experiments, were ascertained. In the course of the experiments, which were somewhat complicated because of the difficulty of obtaining exposures at the various altitudes of the sun which were being investigated, it became obvious that a marked increase in the antirachitic effect of sunshine occurred when the sun reached an altitude of about 35 degrees in the spring, and a decrease occurred at a corresponding time in the autumn. It was ascertained also that the spring sunshine was slightly more effective than the autumn sunshine, and the morning sunshine was more effective than that of the afternoon. These results are believed to be due not so much to the fact that the shorter rays get through at increased altitudes of the sun, but rather that there is an increased intensity of the effective zone of ultra-violet light. These experiments are interesting in view of the geographical distribution of rickets. In certain parts of the world where the disease is unknown, or at the worst occurs in a very mild degree, the minimum seasonal altitude of the sun is only slightly less than 35 degrees. In London, on the other hand, the minimum altitude is 16, and is below 35 for five months of the year; and although the amount of antirachitic rays required is probably smaller with children than with rats fed on rickets-producing diets, yet a study of the altitude of the sun gives a very good idea of the prevalence of this disease in certain parts of the world and at certain seasons of the year. The practical results of these experiments are concerned with the exposure of infants to the sun. During the hot summer months it is considered inadvisable in Toronto to expose infants to the heat of the sun at midday, and a consideration of the time of day at which the sun reaches an altitude of 35 degrees indicates that infants may be placed outside at any time from 8 and 8.30 in the morning to 4 and 4.30 in the afternoon during the summer months. Similar times can, of course, be calculated for any other place, and it is important that such calculations should be made if the best use of natural sunlight for curing rickets is to be obtained. These studies are concerned only with rickets principally because experiments in this disease are comparatively easy, but it is obvious that to make the most of sunlight a great deal of further knowledge on similar lines for other disorders is necessary.

[1] *Journ. Amer. Med. Assoc.*, March 16th, 1929, p. 860.

THE ROYAL ACADEMY, 1929.

IT seems to be agreed that the 161st exhibition of the Royal Academy is one of the best all-round displays of contemporary art that have been seen in recent years. Though there are few works of outstanding importance, much of the material is very good of its kind, and the arrangement of the pictures is happier than usual. Black-and-white work at last receives due recognition at Burlington House, water colours are better represented and better shown, and the corresponding decrease in the number of oil paintings is, if anything, a gain to the exhibition as a whole. Medical art connoisseurs who intend to visit this year's Academy will not need assistance from us in finding their way about the galleries, and our purpose here is merely to name some of the exhibits that have direct interest for members of our profession as such. Among these must first be mentioned the lifelike portrait, by Richard Jack, R.A., of Lord Moynihan in the scarlet and gold and purple robe worn on ceremonial occasions by the President of the Royal College of Surgeons of England. Equally unmistakable is the painting by Sir William Orpen, R.A., of the Minister of Health, Mr. Neville Chamberlain, against a crimson background, though this cannot compare with the same artist's wonderful portrait of Sir Ray Lankester—a masterpiece if ever we have seen one. Professor Priestley Smith is the subject of a quiet canvas by Harold Speed, and there are two other straightforward medical portraits in oils—one of Dr. Barbara Sprott, by G. Spencer Watson, A.R.A., and the other of Mrs. J. H. Macdonald, M.D., by Maud Hall Neale. In the black-and-white gallery will be found an etching by Edmund J. Sullivan of Sir StClair Thomson in doctor's gown and wearing the presidential badge and chain of the Royal Society of Medicine. The crowded sculpture in the Lecture Room include a marble bust by Sir Goscombe John, R.A., of the late Sir Charles Brown, to be placed in the Royal Infirmary, Preston, and another, by Albert Toft, of Dr. A. S. Woodwark; both are well executed. There is also a miniature of Dr. Charles Miller in the South Room, and this completes our list of medical portraits. Among the medals exhibited by the Royal Mint is the member's badge for this week's Congress of Military Medicine and Pharmacy, designed by T. H. Paget. As for the architectural room, this contains many drawings of new hospital buildings, welfare centres, clinics, convalescent homes, and research institutes. Lastly, those in search of pathological specimens will find in Gallery VIII a clear case of facial paralysis, dwarfs in abundance, and a striking representation of cachexia in a young woman.

HEALTH AND WELFARE OF MERCHANT SEAMEN.

A NATIONAL conference on the health and welfare of the British merchant navy at home and in ports overseas was held in London on May 3rd. It was organized by the British Social Hygiene Council and the British Council for the Welfare of the Mercantile Marine (the latter a body which has recently come into existence for the purpose of providing recreational facilities for merchant seamen). The Marquess of Linlithgow presided over a representative gathering, in which Dr. H. G. Dain and the Medical Secretary represented the British Medical Association. Mr. H. B. Butler of the International Labour Office, who made a statement on the international position, mentioned that the health insurance of seamen was one of the subjects which would come before the next International Labour

Conference at Geneva in October; he hoped that an international agreement would be reached parallel to that which was embodied in the convention already existing dealing with workers on shore. Sir John Sandeman Allen, M.P., described the general conditions in home ports from the point of view of the moral welfare of the seaman, and Dr. R. M. F. Picken, medical officer of health for Cardiff, reported on the subject of venereal diseases. Dr. Picken said that no definite information was available as to the extent of venereal disease in the community, and no special knowledge about its incidence among the seafaring population. Records showed that the amount of venereal disease coming to the clinics was diminishing so far as syphilis was concerned, and probably also with respect to soft chancre, but there was no diminution in the number of gonorrhoea patients. Cardiff was one of the few places which had a special hospital for seafaring men with a clinic for venereal disease attached. The amount of venereal disease treated at that clinic diminished from 1921 to 1926, but since then it had increased. This must not be taken to mean that venereal disease in general was increasing; it was simply a reflection of the amount of trade at the port. Although venereal disease might be declining to a certain extent among the seafaring population, there was still a great deal of it, much of which did not come up for treatment at all. From some further figures which Dr. Picken gave it appeared that nearly one-third of the men attending the clinic he had mentioned were infected in home ports; nearly 15 per cent. in France; 10 per cent. in Spain and Portugal; and nearly 10 per cent. in South American ports. As to facilities for treatment, there had been organized through the Ministry of Health a system of interchange of information between ports, so that men might receive treatment under more or less scientific conditions at the various places of call. This, however, did not meet all the requirements, and the most important matter of all in relation to treatment was that the medical profession itself should discover methods which did not have to be continued for such long periods. After further discussion a series of resolutions was adopted; one of them welcomed the proposals of the International Labour Organization to consider the terms of an international convention for the health insurance of seafarers, and another called for the establishment of port welfare committees in major ports to stimulate and co-ordinate the activities for providing recreation and decent accommodation.

ROCKEFELLER MEDICAL FELLOWSHIPS.

THE Rockefeller Medical Fellowships for the academic year 1929–30 will shortly be awarded by the Medical Research Council, and applications should be lodged with the Council not later than June 1st. These Fellowships are provided from a fund with which the Medical Research Council has been entrusted by the Rockefeller Foundation. Fellowships are awarded by the Council, in accordance with the desire of the Foundation, to graduates who have had some training in research work in the primary sciences of medicine or in clinical medicine or surgery, and are likely to profit by a period of work at a university or other chosen centre in the United States before taking up positions for higher teaching or research in the British Isles. In special circumstances the Fellowships may be tenable at centres of research not in America. A Fellowship held in America will have the value of not less than £350 a year for a single Fellow, with extra allowance for a married Fellow, payable monthly in advance. Travelling expenses and some other allowances will be paid in addition. Full particulars and forms of application are obtainable from the Secretary, Medical Research Council, 38, Old Queen Street, Westminster, S.W.1.

DARWIN'S HOME.

THE president and officers of the British Association for the Advancement of Science have issued invitations to a garden party on the afternoon of Friday, June 7th, on the occasion of the opening of Down House, the home of Charles Darwin, which Mr. G. Buckston Browne, F.R.C.S., has presented to the association in custody for the nation. Mr. Buckston Browne has fully restored the whole house and brought back the ground floor as far as possible to its condition in Darwin's time. Thanks to a number of donors, this floor now contains many objects actually used by Darwin or appropriate to his period. At the opening ceremony on June 7th the chair will be taken by Sir William Bragg, president of the British Association, and the house will be declared open by Sir Arthur Keith, ex-president.

DR. W. H. CRAGO.

THE gold medal of the Branches of the British Medical Association in Australia is to be formally presented to Dr. W. H. Crago at the inaugural meeting of the third session of the Australasian Medical Congress (British Medical Association) on September 2nd. Dr. Crago joined the Association in 1884. He was elected a member of the council of the New South Wales Branch five years later, and held the position of honorary treasurer from 1889 to 1893, when he became vice-president. In the next year he held the post of president of the Branch, and from 1895 to the present time he has been honorary treasurer. Among the many services rendered by Dr. Crago to medical progress in Australia may be mentioned his supervision of the publication of the *Australasian Medical Gazette* from 1895 to 1914. He was also chairman of the directors of the Australian Medical Publishing Company, Ltd., from its creation in 1913 until 1924.

AMONG those upon whom the University of Cambridge will confer honorary degrees at a special congregation on Tuesday, June 4th, is the Poet Laureate, Dr. Robert Bridges, F.R.C.P.

THE Chadwick Trustees announce that the Malcolm Morris Memorial Lecture by Sir Norman Walker, M.D., on "The Progress of Dermatology over Fifty Years," will be given in the Hall of the Royal Society of Arts, John Street, Adelphi, on Thursday next, May 16th, at 5.15 o'clock; Sir StClair Thomson, M.D., will preside. The date of the last Chadwick Lecture of the spring programme (an open-air lecture, weather permitting, in the Chelsea Physic Garden) has been changed to Friday, May 31st, when Mr. H. V. Taylor, commissioner of horticulture to the Ministry of Agriculture, will discuss supplies from the vegetable kingdom and the public health.

THE spring number of the *Bristol Medico-Chirurgical Journal*—of which Professor J. A. Nixon is editor—includes a practical note on the care and treatment of mental defectives, by Dr. H. L. Ormerod, and an article of topical interest by the assistant editor, Dr. Carey F. Coombs, on the distal phenomena accompanying high arterial tension. Mr. H. S. Souttar's address on radium and its surgical applications, which was recently published in our columns, is reprinted by permission. Other clinical articles are: the role of pyelography in renal disorders, by Mr. A. Wilfred Adams; and a case of rectal prolapse, reported by Dr. D. Robertson and Mr. D. G. C. Tasker. Reviews of books, and reports of the meetings of the Bristol Medico-Chirurgical Society and the Clinical Society of Bath, are other features of an interesting number of a live medical publication which reflects credit on its producers.

CONCERNING MATERNAL MORTALITY IN CHILDBIRTH.

BY

SIR HENRY SIMSON, K.C.V.O., M.B., C.M.,
F.R.C.P.LOND., F.R.C.S.ED.,
OBSTETRIC SURGEON TO THE WEST LONDON HOSPITAL.

MUCH that has been said and written recently concerning maternal mortality in childbirth points to a general dissatisfaction with the manner in which parturient women are looked after. To ascertain where the blame for the admittedly unsatisfactory state of affairs lies it is necessary to consider the part played in obstetric practice by four separate groups of people—namely: (1) the general public, from whom parturient women are derived; (2) those who teach obstetrics; (3) those who practise obstetrics; and (4) the public health authorities and the Ministry of Health.

THE GENERAL PUBLIC.

What in the past has been the attitude of mind of the general public towards childbirth? I do not think anyone will quarrel with the statement that the vast majority of the general public look upon childbirth and the rearing of children as the natural occupation of women, and upon the act of childbirth as a natural process which must of necessity be normal. From these premisses the conclusion has been derived that Nature is the best obstetrician, and that the only help a parturient woman requires can be quite satisfactorily obtained from some other woman who has "gone through" with it herself, preferably on a sufficient number of occasions to be able to show a quiverful and to refer to the obsequies of several others. This attitude of mind might be justified in the case of a multipara who has three or four normal confinements to her credit, but to apply it to a primipara is absolutely unjustifiable—in fact, one might almost call it criminally negligent. It assumes that during the 274 days of pregnancy which precede labour the great obstetrician Nature is quite capable of looking after an expectant mother, and that as a parturient woman may expect to go "twice round the clock" before she delivers herself, it is quite unnecessary to send for assistance until she has exhausted herself in her efforts to overcome a difficulty which could quite certainly have been rectified had assistance been obtained earlier. By earlier I mean not only earlier in labour, but earlier in pregnancy—nay, even before pergnancy had begun.

Not very long ago, a rickety dwarf was admitted to one of my beds in hospital for repair of an extensive laceration of the perineum extending two or three inches into the rectum. She had received no ante-natal supervision whatever, and the doctor was not sent for until she had been in labour for over twenty-four hours. When finally he did arrive the child was dead, and a craniotomy had to be performed.

Had that woman been seen by any doctor any time after she had reached maturity, she would have been told that she would have to be delivered by Caesarean section, the pelvic deformity being so obvious. The general public must be made to realize that Nature is by no means a good obstetrician, especially in first confinements; that competent supervision during the 274 days of pregnancy which precede labour is infinitely more important than supervision during the early stages of labour; and that when the question of obtaining medical assistance during the later stages of labour arises the words "once round the clock" must be substituted for "twice round the clock."

THOSE WHO TEACH OBSTETRICS.

Obstetrics is taught to medical students by obstetric specialists on hospital staffs; to midwives it is taught by obstetric specialists, but to a greater extent by the matron and sisters of lying-in hospitals. Both these sets of teachers find it impossible to reproduce the conditions in which the majority of their pupils will eventually have to work. They therefore start their task of imparting clinical obstetric knowledge with an almost overwhelming handicap, and it is a matter of great regret that the lot of the teachers of medical students is very much worse than that of the teachers of midwives.

The regulations of the Central Midwives Board with regard to the training of midwives are excellent. Every midwife is compelled to call in medical assistance in all cases where the presentation is not an uncomplicated vertex or breech; I do not propose to offer any criticism on this point beyond saying that it is not always easy to assert that a given vertex or breech is uncomplicated. The special curriculum in obstetrics required for a medical student is quite another matter. Take, for example, that required for the Conjoint Board: all teachers and examiners in obstetrics are agreed that it is inadequate, but the time of medical students is so fully occupied with other work that it is practically impossible to extend the obstetric curriculum. It is not this, however, that handicaps the teaching of obstetrics. Consider the position of the resident obstetric surgeon of a lying-in hospital. He finds himself responsible for the welfare of a large number of expectant mothers in his district. He knows that when these women go into labour they will be attended by inexperienced nurses, some of whom are still undergoing their training, and by undergraduates whose knowledge of clinical obstetrics is negligible. He therefore impresses on his pupils that there is never any occasion to hurry in the early stages of a confinement; that most confinements may end naturally (which, however, is not to say normally); that in the event of assistance being required the less examination the patient has been subjected to the better; and that at the first visit all that is necessary is to ascertain that the woman is in labour and that the presentation is a vertex. Both of these points, he teaches, can be determined by abdominal palpation, and by abdominal palpation only. The making of a digital vaginal examination is considered to be extremely dangerous, and in certain quarters a rectal examination is advocated as a lesser risk. The whole of his teaching is based upon the policy of "wait and see"; but unless he is a superman he gives his pupils clearly to understand that if he is routed out of bed unnecessarily it will not be to their advantage. In this policy he is amply justified, because he knows that if anything goes wrong and he *is* sent for, he has at his back an ambulance service, a fully equipped lying-in hospital with a sterilizing department to supply him with a sterile obstetric outfit, a labour ward, an operating theatre, and a specialist to help him should a major obstetric operation be necessary. Last, but not least, he has an ante-natal department, where all abnormalities are detected and admitted to the hospital. The unfortunate result is that the pupils rarely see an abnormal case on the district, and are only shown how to manage difficult labours in ideal surroundings.

Can such instruction be translated into private practice? Consider what may happen if the practitioner fails to hurry when rung up to go to a confinement. The usual answer to the question "When will the baby arrive?" is "You must expect to go twice round the clock." At the end of twelve hours the answer to the same question may be "Confinements are often very slow—please don't worry." But at the end of twenty hours the statement that "a specialist should see the patient" will probably be met by the question "What will his fee be?" When at last the consultant arrives he finds that he has to do his work in most unsuitable surroundings, unless the patient can afford to go to a nursing home, and even then there is no ambulance service available for her removal.

There is, therefore, no doubt that before a newly qualified medical practitioner can conscientiously attend a confinement in private practice he must find some opportunity for post-graduate instruction. One would go so far as to say that it is the duty of all medical practitioners who propose to attend confinements to obtain this additional training and knowledge.

THOSE WHO ATTEND CONFINEMENTS.

Midwives chiefly attend people who are unable to afford to engage a doctor as well, and I can think of no one more suitable to attend a *normal* confinement than a fully qualified competent midwife. In quite a large number of cases she

is actually on the spot before the patient has started labour. Once labour has started she is able to give up the whole of her time to her patient until the labour is finished, and she is in constant attendance on her patient for the first ten days of the puerperium. To prevent her doing more than to "wait and see" she is only allowed to take with her to a confinement an appliance for giving a vaginal douche, an appliance for giving an enema, a pair of scissors, a clinical thermometer, and a nailbrush; and the moment she finds herself in any difficulty she is expected—nay, even compelled—to send for medical assistance.

This is where her troubles begin. If she is lucky she has a doctor whose post-graduate training has given him a considerable knowledge of obstetrics; if she is unlucky she may call one with less experience and training, but who none the less has a qualification which allows him to use morphine, hyoscine, chloral, pituitary, chloroform, rubber gloves, axis-traction forceps, perforators, cranioclasts, intrauterine douches, and goodness knows what besides.

Now there are a small number of medical practitioners who specialize in obstetrics. What this really means is that these men have devoted a considerable amount of time to the post-graduate study of clinical obstetrics, that they are prepared to limit their work to obstetrics and gynaecology, and that when attending a confinement they are ready (at an adequate remuneration, of course) to give up their time to a personal supervision of the case, provided a fully trained maternity nurse is engaged and the patient is in suitable surroundings. Also, before undertaking to attend a case, they insist that they must be given a free hand with regard to ante-natal observation. In the confinements attended by these men the number of women who are allowed to go twice round the clock and deliver themselves unaided is non-existent. Statistics can, of course, prove anything, and can also be explained away, but I know of a nursing home which took in 147 confinements in one year, of which 95 cases were complicated and 52 terminated in natural delivery. The complicated cases comprised 29 Caesarean sections, 16 inductions, of which 5 demanded the use of forceps as well, and 50 forceps deliveries. All the natural deliveries had chloroform, and most of them had some form of morphine and hyoscine in the early stages of labour. All that these figures show, however, is that Nature is not always to be relied upon in dealing with a pregnant woman.

In addition to the specialists there is a very much larger number of medical practitioners who combine obstetrics with their general practice. They do their obstetric work in less favourable circumstances than the specialists. They find it difficult to persuade their patients that ante-natal supervision is so important, and in a busy general practice it is sometimes difficult to find the time to carry out this supervision adequately. Once a patient goes into labour it is often impossible to neglect the rest of the practice until the labour is over. Can it be wondered, then, that many of these eminently competent practitioners intensely dislike the obstetric part of their work? The general public do not grumble if the family doctor refuses to remove their tonsils, extract their teeth, or ligature their piles—but if he does not attend confinements they go elsewhere. One notices with interest and with satisfaction that all over the country the tendency is towards the formation of small groups or firms of medical men, each with his own special part in the practice, but each prepared and thoroughly competent to carry out the ordinary work of any of his partners. Should a woman go into labour the partner whose job it is feels himself at liberty to devote as much time as is necessary to the case, secure in the knowledge that the rest of his work is being looked after by his colleagues.

I feel certain that on lines like these is to be solved the problem of the care of pregnant women belonging to the class which can afford to have the attention of a doctor and a maternity nurse. But at a conservative estimate only about 25 per cent. of labours in the country are attended by the two classes of medical men just referred to. The other 75 per cent. are among women who cannot afford to have both a doctor and a trained maternity nurse. These women either bespeak the services of a doctor—without, however, expecting much attendance from him unless anything goes wrong—and have a handywoman to "see them through," or they engage a midwife. Now I maintain that the ultimate responsibility for adequate attendance on these women rests with the Ministry of Health under the Insurance Act, or with the public health authorities. Under the Insurance Act what is called a maternity benefit is given to an insured woman or to the wife of an insured man. This benefit takes the form of a sum of money, which is paid out, as a rule, through an approved society after the confinement, and covers a period of four weeks from the confinement. The Act makes no stipulation as to how this sum of money is to be expended, and no provision for ante-natal observation, but by giving the grant the framers of the Act have definitely assumed that they are to some extent responsible for the welfare of its recipients.

In a good many of the London boroughs the public health authorities have opened ante-natal clinics and maternity beds for poor patients, but these clinics do not definitely co-operate either with the Ministry of Health or with medical practitioners in the borough, the attendance of expectant mothers is entirely voluntary, and no provision is made for the conduct of labour in the women's own homes. There are, furthermore, 847 infant welfare and ante-natal clinics scattered throughout the country. These are philanthropic institutions which make us proud of our country; at present these centres receive money grants in aid of their work from the Ministry or public health authorities. The actual results of these various attempts to deal with the situation are not altogether encouraging. In illustration I would cite the following case.

A primipara engaged a midwife, but did not think of going to see her until a week before the baby was expected. The midwife, finding that the patient was suffering from headache and swollen ankles, advised her to see a doctor. The patient went to an ante-natal clinic, where it was found that the urine was loaded with albumin, and she was most strongly urged to go at once to a hospital. She went home to consult with her husband and mother, and did not act on the advice given to her at the ante-natal clinic. The next that was heard of her was when she had had two eclamptic fits. Everything possible was done, but the woman died.

Now all the persons concerned in this case did all that was expected of them, but as no one was actually responsible no treatment was actively undertaken until too late. Proper co-ordination between the midwife, a medical practitioner, the ante-natal clinic, and a hospital would have prevented the catastrophe.

It would not be difficult to cite other cases, but the outstanding features of them all have been the same: an absence of any organized co-operation between the various parties concerned; some abnormality in labour which, owing to the accepted "wait and see" policy, was not diagnosed until too late to be rectified easily; some form of internal examination or operation which necessitated the introduction of the hand into the uterus, or the use of instruments; and an exhausted patient with an exhausted uterine muscle which was incapable of dealing with the third stage of labour adequately.

I have still to be convinced that digital vaginal examination is a source of danger to a woman in labour. I am prepared to argue that anyone who has not sufficient surgical knowledge to make such an examination in a surgically clean manner has no business to attend a confinement. Cases of puerperal infection have been reported where no examination of any kind has been made. If one takes into consideration the surroundings in which so many confinements take place, the only wonder is that serious intrauterine sepsis is not more prevalent than it is. That a subacute puerperal infection is extremely common has been abundantly proved by the work of Dr. Remington Hobbs, but at present we are only concerned with the maternal death rate, of which 80 per cent. is due to some form of sepsis. The history of the cases of severe puerperal sepsis in which I have been consulted have a number of features in common: a long labour, probably a primipara, an exhausted patient, and an exhausted uterus, possibly an instrumental delivery, certainly a third stage with a retained placenta or post-partum haemorrhage; and then has gone in more than the index finger in circumstances and surroundings which court disaster.

FINAL CONCLUSIONS.

I have been forced to the conclusion that, in primiparae at any rate, a normal labour—that is, a labour completely free from abnormality—is not a common occurrence. In the normal labour of a primipara the head should be engaged a week before labour starts, and the membranes should not rupture until the os is fully dilated; yet at least 50 per cent. of first confinements occur without the fulfilment of one or other or both of these conditions. If, however, the head does not engage until uterine contraction begins, and, as frequently happens, an enema has not been administered within an hour of the commencement of labour, the loaded sigmoid prevents the occiput from descending readily. In consequence the head enters the brim slightly extended, and the occipito-bregmatic diameter takes the place of the suboccipito-bregmatic. This causes very definite delay in anterior rotation and abnormally long first and second stages. If, moreover, extension takes place while the head is crowning, the extra half-inch of the engaged diameter causes a tear of the perineum. When the second condition is not fulfilled the anterior lip of the cervix tends to get pushed downwards in front of the occiput. This not only causes severe pain to the woman, but increases enormously the strain on the cervico-pubic portion of the fascial support of the anterior wall of the vagina. The best treatment is to push up the anterior lip during three or four consecutive pains by digital pressure, but owing to the fetish against vaginal examination the condition is neither diagnosed nor treated. The result is unnecessary and prolonged pain for the patient at the time, and in a very large number of cases a definite rupture of the cervico-pubic fascia. How often this occurs one realizes on recalling the number of women who, after they get up from a confinement, complain of bladder trouble and even slight incontinence of urine, especially on coughing. This rupture of the anterior fascia is the first stage of a subsequent prolapse, and there is no doubt in my mind that unnecessary prolongation of the first stage of labour, with the undue strain on the pelvic floor which it entails, has more to do with the production of prolapse than anything else. The remedy is to preach the doctrine of surgical cleanliness, and so to allow of an early diagnosis of a difficulty to be made while time remains to rectify that difficulty easily.

It would take too long to enter into details as to how the proposed co-ordination between the Ministry of Health, the public health authorities, the welfare centres, and the practitioner can be effected; but one thing leaps to the imagination: the Ministry of Health grants a cash maternity benefit. It is surely within its powers to make the payment of this benefit dependent on proof of adequate ante-natal observation. This certificate of observation could be obtained from the patient's medical attendant, an ante-natal clinic run by the public health authorities, a welfare centre, or a lying-in hospital. I am certain that many general practitioners who attend expectant mothers would welcome co-operation with the clinics and centres. Pregnant women would soon realize that they must get in touch with a doctor or a midwife early in pregnancy. Many doctors, knowing that the clinic was not run in opposition, would be glad to be relieved of the work of ante-natal supervision. During pregnancy they would remain in charge of the patient's general health, and the moment any special symptoms showed themselves, being in touch with the ante-natal clinic, they would be in a position to co-operate immediately to the best advantage of the patient.

With regard to the actual attendance at the confinement, a midwife or a maternity nurse would always be in attendance in the early stages, and it would be simply a matter of arrangement between the parties concerned whether she would send for the medical practitioner or to the ante-natal clinic as soon as she began to suspect some abnormality. It should also be possible for midwives and general practitioners to obtain sterilized obstetric outfits from the clinics and centres.

That some scheme such as this is within the range of practical politics is proved by the fact that the Ministry of Health has already taken over the treatment of venereal disease throughout the country among the same class of patient which would be looked after by this suggestion. But the general public, like the ostrich with his head in the sand, is a curious bird. As long as a danger is not absolutely obvious it is difficult to get people to realize that preventive measures are infinitely better than measures for treating bad results. The person suffering from syphilis is an obvious danger to the community; but the parturient woman does not obtrude herself in the community until she dies—and then it is too late.

PARATYPHOID FEVER IN LONDON.

REPORT ON THE 1928 OUTBREAK.

THE outbreak of paratyphoid fever which occurred in London and several of the Home Counties during the end of July, 1928, and continued throughout August, gave rise, it will be remembered, to a considerable agitation in the press and in certain interested quarters, in favour of altering the law relating to the use of preservatives in food. In a leading article (August 18th, p. 316) discussing the outbreak we expressed the opinion that "there would be no additional security to the public against outbreaks of this character were a 'minute quantity of boric acid' permitted to be added to cream as a preservative. It is not in the public interest that an outbreak of infectious disease calling for calm and experienced investigation should be made the subject of a newspaper stunt, and exploited to revive a practice which has been abolished in America and in regard to which, as the result of careful, prolonged, and skilled inquiry, official prohibition has tardily followed in this country." Confirmation of this opinion is now given in the report of his investigation presented by Dr. J. A. H. Brincker to the medical officer of health to the London County Council, and published this week.[1]

Etiology and Incidence.

The report opens with a general discussion of the etiology of typhoid and paratyphoid fevers, and of the peculiarities exhibited by the outbreak in question. Dr. Brincker points out that whereas cases of illness exhibiting prostration, continued fever, and abdominal symptoms were till comparatively recently all notified as typhoid, or continued fever, the use of bacteriological methods has made it possible to allocate the majority of such cases into the categories to which they belong—namely, typhoid fever and paratyphoid A, B, and C. The micro-organisms of these diseases, with certain kindred pathogenic organisms, such as Aertryke's and Morgan's bacillus, which are associated with outbreaks of food poisoning, are responsible for the Salmonella group of diseases, which all result from the ingestion of appropriately contaminated food or drink.

During the war there was some expectation that *B. paratyphosus* A, B, and C, together with Aertrycke's and Morgan's bacillus, hitherto comparatively uncommon in this country, might be brought into it by troops who had contracted and recovered from the corresponding diseases in countries where they are normally endemic; this expectation has not been fulfilled. What higher incidence of paratyphoid there has been in London since the war may be due to the better methods of diagnosis and the wider recognition of the disease as a separate entity; on the other hand, the infrequency of the post-war outbreaks demonstrates that modern sanitation, increased vigilance on the part of sanitary authorities, and possibly the absence of conditions that favour the spread of the disease, have combined to keep the risks in check. Apart from occasional outbreaks, usually traceable to a specific cause—namely, infected food—efficient supervision and control of foodstuffs, milk and water supplies, shellfish beds, and so on, has limited the occurrence of enteric fever to sporadic cases.

A comparison of the notifications and deaths from enteric fever in London during the ten years preceding the war with those for the ten post-war years illustrates not only that the fears of a greater prevalence of enteric fever following demobilization were not realized, but that the disease has considerably declined. Thus, in 1905, there were

[1] Outbreak of Paratyphoid Fever. Report by the Medical Officer, London County Council. No. 2643. Price 1s.

1,552 cases, with 234 deaths; in 1914 there were 789 cases, with 147 deaths. In the post-war period the disease had so declined that in 1919 there were only 342 cases, with 59 deaths, and in 1927 there were 322 cases, with 27 deaths. During the three months ending September 29th, 1928, however, no fewer than 338 enteric or continued fever notifications were received in London, 230 being notified as paratyphoid fever. If the date of onset be taken into account there were 282 patients, of whom 201 were cases of paratyphoid B, who developed their illness during the period July 1st to September 1st, the great majority during the third and fourth weeks in July. In Surrey there were 203 notifications, in Middlesex 63, in Kent 38, and in Hertfordshire 21, during the same period. Most of these cases also developed about the third or fourth week in July. A comparison of these figures with those showing the normal incidence of the enteric group of diseases during the years 1919 to 1927 made it clear to the authorities that they were faced with an outbreak which could not be explained by normal conditions.

History of the 1928 Outbreak.

On July 30th five cases of paratyphoid fever, serologically diagnosed as paratyphoid B, occurred in a children's nursery in Streatham. On the following day fifteen cases, mostly among well-to-do persons, occurred in Kensington. Inquiries made by the public health authorities elicited reports of other cases in Fulham, Westminster, and various other western London boroughs. Simultaneously the Ministry of Health drew attention to an outbreak in Surrey, about which it was established that most of the patients had partaken of cream from one common source —namely, "X's" large wholesale dairy. The following day particulars of additional cases were received from other outlying districts, and practically in them all cream supplied by "X" was inculpated.

Source of Infection.

As the inquiry proceeded it became increasingly evident that practically the only common factor in the cases investigated was the consumption of cream from "X's" dairy. In his early investigations Dr. Williamson, medical officer of health for Epsom, made the significant discovery that the cream received from "X" on July 7th by certain retailers was bad on the following day, in spite of having been kept in a refrigerator overnight, and that customers had complained about it. It was also brought to light by a study of the dates of onset of the illness that in practically all the cases the patients were actually infected on or about the week-end July 7th–8th. From Carshalton, Leatherhead, Dorking, Beddington and Wallington, Sutton and the Maldens, from Kensington, Fulham, Wandsworth, and Paddington, the reports were essentially the same: a majority of paratyphoid B cases reported were definitely known to have consumed cream derived from "X." This weight of evidence notwithstanding, an investigation was made of other possible sources of infection. No evidence could be found implicating water supplies, contaminated foods, and attendance at baths—all factors usually associated with outbreaks of this kind.

Investigation of "X's" Creamery.

Immediately "X's" creamery came under suspicion, inquiries were made to ascertain the source or sources from which his supplies were derived, the methods of handling and distributing the cream, and the means employed for sterilization. "X," it was found, receives his supplies of cream from Ireland, Holland, and an English company. The cream from Ireland is said to be pasteurized at the place of origin, but "X" has always found it necessary to re-pasteurize it immediately upon its receipt in London. Examination of samples of this cream as received by "X" showed it to be grossly contaminated with *B. coli*. The Dutch cream is sterilized in Holland at 200° F., and exported in sealed tins. On analysis it was found to be quite satisfactory and above suspicion. The English cream is pasteurized before delivery to "X," but samples taken from time to time on "X's" premises were found to be contaminated with *B. coli*. The Ministry of Health was unable to discover anything suspicious about the milk from which the English cream is derived, or about the health of the employees handling it. Careful inquiry into the medical history of these employees and of their families yielded no evidence to show that any one of them could have acted as a focus of infection. The method of pasteurization was, however, open to objection, and the Ministry suggested improvements in the technique employed. While, then, there is strong presumptive evidence from the data available that cream supplied by "X" was responsible for the outbreak, actual proof is lacking owing to the failure to discover paratyphoid organisms in the samples of cream taken every three weeks after the infection occurred. It may be assumed, however, that the infection was probably of a transitory character, such as would be produced by an intermittent carrier.

It is noteworthy that not until July 26th, 1928, did "X" begin to pasteurize the English cream. Before that date, however, it had been regularly supplied by the English firm every Friday to its employees, and no case of paratyphoid fever was discovered to have occurred among them. Furthermore, certain seaside towns were supplied by "X" with this cream during the week-end July 7th–8th; yet no cases of paratyphoid fever were reported from these towns. The amount of cream diverted to the employees and the seaside towns amounted to about half of the total supply of one day; the remainder was used by "X" for mixing with Irish and Dutch cream. Had the cream from this source been infected it would have been expected that cases of paratyphoid would occur among the persons in the seaside towns and the employees who consumed unmixed cream. The fact that the Irish cream was grossly contaminated with *B. coli* indicates that at some stage of its production or in transit it must have been exposed to pollution. Whether it was actually infected with *B. paratyphosus B* will now never be known, but if such were the case the only explanation that can be offered is that it may have inadvertently slipped through the cordon of precautions during a rush period, when there was an abnormal demand for cream.

Boric Compounds as Preservatives in Cream.

In view of the press criticisms of the ban against the use of boric acid as a preservative in food, Dr. Brincker devotes a portion of his report to a discussion of the existing food preservative regulations. Boric acid in food, he points out, is intended merely as a preservative, not as a germicide; while inhibiting the growth and activity of putrefying organisms it does not kill them. It has no action on the germs of disease. In the past it has been used as a preservative in cream in a 0.25 per cent. concentration; it has been proved, however, that cream with as much as 4 per cent. boric acid will contain vigorously growing bacteria, even after thirty-six hours. The tendency in some quarters to rely upon preservatives to mask the signs of early decomposition in food is in itself a potent reason against their free use. Proper care in the preparation and handling of food to minimize the risk of contamination, and, where applicable, pasteurization or sterilization, must be regarded as the basis of all wisely directed measures for safeguarding the food of the people.

ROYAL MEDICAL BENEVOLENT FUND.

DURING the first quarter of this year £2,774 has been voted in grants and £1,320 paid to annuitants, showing an increase on the corresponding period of last year. As the fund expands in usefulness so is further support and the need of enlisting new subscribers the more urgent. Subscriptions and donations should be sent to the Honorary Treasurer, 11, Chandos Street, Cavendish Square, London, W.1.

At the recent meeting of the committee thirty-three grants were made, amounting to £715 2s. The following are short notes on four of the cases helped.

M.D., aged 76, whose sight had been damaged by *x* rays in the early days of long exposures. Vision of the right eye practically gone, and left eye failing. Applicant was one of the earliest pioneers of radiology in this country. Private income £22. Freemasons have given a pension of £64, making a total income of £85. Voted £40.

M.B., C.M., aged 72. For many years has suffered from mitral valvular disease; during the last few months has had increasing difficulty in walking, and cannot work. His savings are exhausted. Voted £40.

Widow, aged 62, whose husband was a ship surgeon until his death in February, 1929. She has been left with no income. Her daughter is earning £130 a year, and relations contribute £50. Voted £36.

Daughter, aged 61, of M.R.C.S. Her father died when applicant was a child. She was trained as a nurse and supported herself through life as nurse matron in schools. In 1928 a severe operation compelled her to give up work. Income £75; rent £26. Voted £26.

VITAL STATISTICS FOR ENGLAND AND WALES.

THE REGISTRAR-GENERAL'S REVIEW.

THE Registrar-General's Statistical Review of England and Wales would at first sight appear to be a no more dramatic document than any other report of annual stocktaking. Through the masses of statistical tables, however, and within the graphs, the discerning mind may perceive a coherent picture of the social structure and of the trend of events on which any just forecast must be founded. Changes in birth rates and in death rates, in the incidence of disease and in the expectation of life, in the age distribution of population and in the marriage rate—these, as much as the results of a cultural or an economic survey, must determine an appreciation of the nature and the progress of a civilization.

1927 and its Forerunners.

The review for 1927,[1] just published, opens with an account of the deaths registered in England and Wales during that period, of which 246,606 occurred among males and 238,003 among females. The total of 484,609 corresponds to a rate of 12.3 per 1,000 of estimated population, or, standardized to correct for the deviation of the age and sex distribution of the population, to 10.6. In 1926 the standard rate was 10.1, and in 1923 10.3; but apart from these two years no other has ever returned so low a rate as that for 1927. After a period of practical stability from 1841 to 1880, and until the end of the nineteenth century, the age constitution of the English population gradually became more favourable to longevity, in consequence of the fall in the birth rate dating from 1877. This had the effect of decreasing the proportion in the age group 0-5, for which the mortality is now almost exactly double the average for all ages, though in the last century the excess was much greater. During the present century, however, other influences have come into play, chiefly reduction of mortality in later life, which, by greatly increasing the proportions living at ages over 55, have interrupted the tendency to low mortality. Since the enumeration of the standard population in 1901, the proportions of persons per million of all ages in the age groups under 20 are lower now than at any preceding census, and at all over 45 they are higher. This increase has resulted both from the large decline of mortality at most ages over 45, and from the fact that persons over 45 are survivors from a period when population was being more rapidly recruited by new births than at present. The increased death rate in 1927 was determined by the mortality in the March quarter (in which there were more deaths than in any corresponding period since the great influenza epidemic), all the other three quarters returning rates which are among the lowest yet recorded. The tendency for the male death rate to increase as compared with the female is revealed by the fact that for the third year in succession there is male excess in each age group of population. In the middle of the last century mortality was steadily higher for females than for males of 25 to 35; at that time tuberculosis was more fatal to females at this age, whereas from 1871-80 onwards its mortality has been greater for males.

Infant Mortality.

The rate of infant mortality in 1927 was 70 per 1,000 live births, the lowest yet recorded in this country with one exception—69 in 1923. Of the 484,609 deaths registered during the year, 45,610, or 9.4 per cent., were those of infants under 1 year of age; this proportion, which as recently as 1901-10 was 22.6 per cent., has fallen greatly of late years, owing mainly to reduction of the birth rate. During the last forty years of the nineteenth century infant mortality was almost stationary; the fall in this century, represented in England and Wales by a halving of the rate, has occurred throughout Europe and the civilized world generally, being accompanied elsewhere, as here, by a fall in the birth rate, which may go far to account for it. The mortality rates for the county boroughs and for the North were, as usual, in considerable excess, the highest rate being 87 for the northern county boroughs, and the lowest 49 for the urban and rural districts of the South. The general tendency has been for the reductions to be greatest in the South and smallest in Wales, and whereas the advantage of the South over the North has tended to increase, that of the country over towns has diminished. Particularly noteworthy are the figures recorded for London; usually its mortality is high in early infancy and tends to some excess later on, especially at 3 to 6 months; but in 1927 the London rate was below that for England and Wales at all ages, except for a 4 per cent. excess at 3 to 6 months. The regional differences are of a surprisingly constant nature, and indicate that in England a southern environment is more favourable to life, even from the day of birth, than a northern.

The excess mortality of males over females, which has greatly increased along with and in consequence of the fall in infant mortality during the present century, was 31 per cent. in 1927. In each recorded age period up to 1 year the death rate was considerably greater—at certain periods twice as great—among illegitimate than among legitimate infants. Changes in the recorded causes of mortality are largely attributable to increased caution in diagnosis, particularly of conditions formerly classified as convulsions, debility, and tuberculosis, and to the substitution of more definite forms of return. The only causes of appreciably increased mortality are influenza and congenital defects, the rate from the former being attributable to the prevalence of fatal influenza in the first three months, from the latter to the increasing incidence of malformations, which in the year under review accounted for a mortality of 4.77 per 1,000 live births, the highest rate yet recorded.

Causes of Death.

Causes of death are classified in this review in the form adopted by the Registrar-General in consultation with the Ministry of Health for use in 1921-30, and are related to the international lists as revised by the commission which met for the purpose at Paris in 1920. The low mortality from enteric fever, the incidence of which was somewhat higher in 1927 than in several previous years, is attributable to the unprecedentedly low fatality rate of 104 per 1,000 notified cases. Scarlet fever and diphtheria yielded lower fatality rates in 1927 than in any other year since 1911, when publication of the notifications was begun. In general, the small-pox prevalent during the year conformed to the mild type, but the report of the Chief Medical Officer records cases of severer types in certain local outbreaks in London and Middlesex. The deaths from measles numbered 3,622, corresponding to a mortality of 92 per million of population; the rate was thus lower than for any previous year, except 1921 (59) and 1926 (89). The statistical tables show how preponderantly measles mortality is affected by city life. The regular increase shown for 1927 from rural districts to small towns, and from these to county boroughs, is common to the experience of each of the years 1911-27, for which the facts are available. For twelve years in succession the rate of mortality from scarlet fever has been much lower than any recorded previous to this period (1916), the rate for 1927 being less than 2 per cent. of that prevalent sixty years ago. Deaths from whooping-cough have been falling rapidly during the present century, the rate for 1927—94 per million total population—being less than half that for 1906-10. The 2,732 deaths from diphtheria included 1,339 of males and 1,393 of females; this excess of females is a constant feature of the returns, applying to each year since the disease was first distinguished, except 1922. The rate—257 per million aged 0-15—was lower than in any previous year except 1923-24, and less than one-fifth of the maximum rates during the years 1856-65.

The mortality from influenza—567 per million persons living—was the highest crude rate recorded since the great epidemic of 1918-19, though the standardized rate was exceeded by the similar rate for 1922. The effect of standardization in reducing the crude death rate from influenza—a disease chiefly fatal to old people—has been increasing along with the proportion of old people in the population since the standard year, 1901. During the great epidemic of 1918-19, age for a time ceased to favour mortality, but since then the proportion both of the population and of influenza deaths has increased at the higher ages. Mortality from influenza with pneumonic complications has been in considerable excess for males, and that with other pulmonary and without stated complications in some excess for females. Of the deaths in 1927, 45 per cent. were stated to have been associated with pneumonia, and 24 per cent. with other complications. The highest mortality was in the first quarter of

[1] The Registrar-General's Statistical Review of England and Wales for the year 1927. (New Annual Series, No. 7.) H.M. Stationery Office. 1929. Price 5s. net.

the year, culminating in February, when 42 per cent. of the year's deaths occurred.

The mortality from encephalitis lethargica, 29 per million, though lower than during 1924–26, was higher than for any previous year since 1918, when these deaths were first distinguished. The notifications were also higher than for any year previous to 1924. The standardized death rate from tuberculosis increased from 942 per million in 1926 to 952, its proportion to that from all causes falling, however, from 9.3 to 9.0 per cent. It is probable that the share in the total mortality attributed to tuberculosis has never been so low in any previous year. The small increase of tuberculosis mortality in 1927 was attributed to the outbreak of influenza in the first quarter of the year, a causal association which is confirmed by similar comparison for other recent years. The mortality ascribed to syphilis, after falling steadily from a maximum for recent years of 60 per million in 1917 to 30 in 1925, rose again to 32 in 1926 and to 36 in 1927. The infant death rate from this cause has, however, continued to fall, and it seems probable that the recorded adult increase may be attributed to the use in the second half of 1927 of the new form of death certificate, in which the attention of the certifying practitioner is directed to the remoter antecedents of the immediate cause of death.

The deaths ascribed to cancer—25,048 for males and 29,030 for females—are the highest yet recorded. The standardized death rate for males, 1,018 per million, is higher than for any previous year except 1925, but the rate for females, 984 per million, is below that for the years 1924–26 and 1913. During the last century the standardized rate for each sex increased steadily and to practically the same extent for each sex, the excess for 1896–1900 over 1851–55 being 488 per million for males and 483 for females. But this equality of increase implied a reduction of the proportionate excess for females from 114 to 32 per cent. After 1900 the rate of increase slackened greatly, but less for males than for females, with the result that by 1924 addition of a further 311 per million to the rate for males, as against only 74 to that for females, has placed the former for the first time in excess of the latter, an excess which has been maintained in each of the three subsequent years.

The standardized death rates from diabetes—in 1927, 88 for males and 101 for females—were higher than in 1926, the rate for males being the highest since 1923, and for females since 1915. The increase has occurred entirely at the highest ages, and if it is desired to trace the effect of insulin on mortality it is necessary to deal with the various periods of life separately. The figures show that whereas for all ages under 55 an obvious improvement has occurred, its effect on the total mortality has for males been almost, and for females more than, wiped out by the extraordinary increase in the diabetes death rate at greater ages. The death rate from pernicious anaemia is of interest because of the introduction of liver treatment in 1927. Though it is too early to form a definite conclusion from the figures available, the fact that the highest reduction of mortality occurred in the fourth quarter of the year, after attention had been called to the new treatment in the third, would seem to offer hopeful prospects for the future.

The number of deaths allocated to heart disease—33,365 of males and 38,744 of females—was, as usual, higher than for any other of the scheduled causes of death. The increasing age of the population and the change in certification contributed to the large increase in the crude mortality from heart disease in 1927, but two most significant factors were the influenza epidemic in the first three months of the year and the introduction of the new form of death certificate in July. It is probable that more than half of the increase may be attributed to influenza.

The death rate assigned to pregnancy or childbirth was 4.11 per 1,000 live births, inclusion of deaths associated with pregnancy and childbirth raising the figure to 5.43. The increased associated mortality was due partly to the prevalence of influenza, partly to the increasing tendency to record, without necessarily implicating, recent childbirth on certificates of death from other causes. Especially noteworthy in 1927 was the fact that the puerperal mortality in London from both septic and other causes was the lowest in the country. In rural districts the rate of mortality from sepsis was for the first time greater than that for all England and Wales, and the highest recorded since the epidemic of 1920.

The total number of deaths under or connected with the administration of anaesthetics was 596, thus exceeding that for 1926 by 40, and being more than double that of any year prior to 1916, except 1914 (300). The increase has occurred notwithstanding the very general substitution of ether for chloroform, the latter having been associated with over four-fifths of the deaths at the beginning of the century, but with less than one-fifth in 1927. The record of ethyl chloride, stovaine, and novocain on death certificates is increasing rapidly. Unfortunately, the deaths associated with each type of anaesthetic cannot be collated with the number of administrations, and it is not even possible to say whether the rapid increase in the number of deaths implies increased mortality under anaesthetics. No record is available of the number of administrations, and the deaths tabulated are those which occurred under, not those caused by, anaesthesia. It is possible that the increase of this type of death may be partly dependent upon increased boldness in operative surgery.

Population.

The total population of England and Wales as at June 30th, 1927, has been estimated at 18,804,000 males and 20,486,000 females. The population is assumed to have grown by 3.7 per cent. over the period since 1921, representing an arithmetical average of 0.61 per cent. per annum, as compared with 0.49 per cent. per annum during the decade 1911–21. The sex inequality expressed in 1921 as 1,096 females per 1,000 males has been reduced to 1,089 females per 1,000 males at the present time. The average ages of the mid-1927 population were 30.9 and 32.4 for males and females respectively, as compared with 29.9 and 31.2 at the last census. 654,172 live births were registered during 1927, corresponding to a birth rate of 16.6 per 1,000 of population. This rate is the lowest on record, not even excepting that of the war years, during which it was unusually depressed. Having regard to current economic and industrial conditions, the rate appears likely for some time to remain low in relation to the rates that obtained at all earlier periods for which we have reliable records. The proportion of male to female births was 1,041, 1,051, and 1,042 to 1,000 for legitimate, illegitimate, and total births respectively. From 1919 the male excess has fallen almost continuously, the ratio now approaching that of the years immediately preceding the war. The excess of live births over deaths was 169,563, as compared with 240,759 in 1926; this drop in the natural increase figure is attributable to the conjunction of the decrease in births with the increase in deaths. The population as a whole is gradually getting older, owing to the heavy falls which have occurred during the past half-century both in fertility and mortality. The older sections, where the death frequencies are naturally highest, are becoming relatively more numerous, and if the true underlying mortality remains unchanged the crude death rate must continue to encroach on the already diminished margin of natural decrease. The encroachment would be delayed by a real decrease in mortality or an increase in fertility. Of the advent of the latter there is no evidence at all; while as regards the former, from the very nature of the case the lower mortality falls the less room is there for it to fall still further. The inference must be that with a continuation of present conditions the further growth of population will tend to take place at an ever-diminishing rate up to a stage at which births and deaths are equal, the latter thereafter gaining the ascendancy, with a consequent decline in population.

SMALL-POX CASES FROM THE "TUSCANIA."

REPORT BY THE M.O.H. FOR GLASGOW.

THE following report, supplied by Dr. A. S. M. Macgregor, medical officer of health for Glasgow, deals with the circumstances attending the recent introduction of small-pox from India by the s.s. *Tuscania* between April 5th and 22nd. Fifteen cases of small-pox were removed to hospital in Glasgow subsequent to the arrival of the vessel on April 4th, thirteen being members of the crew, one a passenger, and one a relative of a steward, who conveyed the infection presumably by means of his clothing. All were directly due to infection received on or, in one case, transmitted from the ship. Contemporaneously with this occurrence others of the ship's complement, both passengers and crew, became ill shortly after reaching their destinations in various parts of the country and abroad.

Movements and Personnel of the Vessel.

The ship arrived at Bombay on March 4th and left on March 14th, the ports of call on the homeward journey being as follows: Port Said and Suez, March 22nd; Marseilles, March 27th; Gibraltar, March 29th; Liverpool, April 1st; and Glasgow, on the evening of April 4th. She left Bombay with a total complement of 1,117 passengers and an all-British crew of 437 members, taking on 19 passengers at Port Said, 8 at Marseilles, and 9 at Gibraltar. There disembarked 21 passengers at Suez, 14 at Port Said, 457 at Marseilles, 10 at Gibraltar, and 651 at Liverpool. Of the crew, 176 were paid off at Liverpool. The vessel arrived at Glasgow with a crew of 288 and 8 remaining passengers. A supply of lymph sufficient to vaccinate, if need be, the whole personnel of the ship had been taken on board before leaving this country. Notices offering revaccination were posted up on the vessel at Bombay, but without effect.

Incidence of Small-pox on the Vessel.

On April 3rd a message was received from the port medical officer at Liverpool that the ship had had small-pox on board, that a case had been landed at Liverpool, and that the date of onset was March 18th. This was followed by a list of the crew and passengers proceeding to Glasgow, either on shipboard or by rail. On arriving at the boarding station at Greenock it was ascertained by the port medical officer that a case of small-pox had been removed at Marseilles in the following circumstances, as reported by the ship surgeon.

The patient, a seaman, had been taken ill on March 17th, and had been removed to the ship's hospital on the following day, where he remained until admitted to hospital at Marseilles. His symptoms were headache, fever, and a severe tonsillitis, followed on March 20th by an erythematous rash, developing next day into what appeared to be a marked general dermatitis, going on to the formation of large blisters on various parts of the body, with considerable prostration. The patient was given antidiphtherial serum, and the condition did not suggest small-pox. The ship surgeon pointed out that he was fortified in this diagnosis by the opinion of the boarding medical officers at Port Said, Suez, and Marseilles, and by two other medical men on board. It was only after the ship had disembarked its passengers and had left Marseilles that the diagnosis of small-pox was communicated to the ship by a wireless message. Revaccination of the ship's personnel was then commenced and completed by April 1st, when the ship reached Liverpool.

This patient was treated throughout in the ship's general hospital, and even although he was ultimately recognized to be suffering from small-pox it seems most unlikely that this source of infection could have been responsible for the widespread infection of the passengers and crew, which apparently took place about this time. His immediate contacts, a passenger and a member of the crew, both of whom were under treatment in the hospital, along with the hospital attendant, were removed to Liverpool for observation, and none of them have developed the disease.

The second patient on board ship, a greaser, who was removed at Liverpool, became ill on March 18th, and was treated throughout in the isolation hospital as a case of chicken-pox.

The ship surgeon states that this man was also seen by the boarding officers at Port Said, Suez, and Marseilles, but no other diagnosis was made.

Procedure at Glasgow.

On arrival at Glasgow on April 4th a general inspection of the crew and the remaining passengers revealed no case of small-pox on board, and arrangements were made to maintain strict daily supervision over the passengers and members of the crew, whether remaining on the ship or proceeding to their homes. This procedure is in accordance with general practice and with Article 42 of the International Sanitary Convention, 1926. At the same time, appropriate arrangements were made for disinfection of the ship's hospitals. This was the position when the vessel arrived, and on the basis of the facts as ascertained, there was no reason to anticipate the events which followed, especially as the two small-pox patients on board, although undiagnosed, had been isolated in the ship's hospitals, and were most unlikely to have caused a widespread general infection of the personnel of the ship. Even had there existed power to place a vessel in quarantine, it is extremely doubtful whether the facts disclosed on the arrival of the ship would have justified so serious a measure of precaution.

As regards notification of the destination of contacts for the purpose of surveillance to the local authorities concerned, it appeared that this had been carried out at Liverpool in so far as related to those passengers and crew who had disembarked there. There was, however, no indication that passengers who left the ship at Marseilles, and proceeded overland to various parts of this country and abroad, had been similarly reported. It was, indeed, ascertained that among this group were several passengers proceeding to Glasgow, in respect of whom no notification of contact had been received. Accordingly, a list of the names and addresses of the 457 passengers via Marseilles was obtained from the shipping company and notified to the appropriate authorities in various parts of this country and the Continent. These passengers had disembarked on March 27th, and by the time these lists had been obtained and the names and addresses forwarded to the proper quarter, the information would arrive just about the time that contacts might be expected to sicken of small-pox. Had the voyage been still further prolonged the delay would have been still greater. As it was, this measure was late enough, especially as many of the passengers were moving about on holiday.

This raises a very important point as to the procedure for effecting adequate surveillance of contacts disembarking from a ship on which small-pox has occurred. It should clearly have been the duty of some person or authority to perform this function as soon as the first case landed at Marseilles was definitely diagnosed. It was not undertaken till the port of final destination had been reached. As soon as it was apparent that small-pox was occurring among the ship's complement an effort was made, without success, to obtain the names and destinations of the ten passengers who disembarked at Gibraltar.

Incidence of Small-pox among the Contacts.

On April 5th, the day after the arrival of the ship, the first case of small-pox declared itself in a bedroom waiter, who was removed on suspicion, and definitely diagnosed next day to be suffering from small-pox with a sparse eruption. On April 6th three other cases were discovered in a linen keeper, who had been isolated on the previous day in the reception house for observation, an engineer, and a first-class steward. There then followed, during subsequent days, a series of further cases among the crew, making a total of thirteen.

On the ship's arrival, and for one or two days later, a number of the crew were affected with catarrhal conditions resembling a very mild influenza, no doubt due to their return from the tropics to a cold climate. Owing to the difficulty of separating these from possible early cases of small-pox a number were admitted to the reception house for observation. Two of this group were found to be developing small-pox. This complication was, however, evanescent, and as a routine procedure during the subsequent period of observation and contact showing indisposition, however mild, was removed to the reception house. For these purposes, 27 members of the crew were thus dealt with, of whom 6 actually developed small-pox. The immediate contacts of the cases who took ill at home were also accommodated in the reception house. The thirteen members of the crew admitted to hospital with small-pox were as under:

Case.	Rating.	Sickened.	Rash.	Isolated.	Remarks.
J. S.	Waiter	April 1	April 5	April 6	Sparse eruption.
E. B.	Linen keeper	,, 3	,, 6	,, 5	Abundant semiconfluent.
A. M.	Engineer	,, 4	,, 6	,, 6	Abundant semiconfluent.
D. M.	Waiter	—	,, 6	,, 8	Scanty eruption. No history of sickening.
J. F.	Engineer	April 5	,, 7	,, 7	Severe confluent eruption.
R. M.	Waiter	,, 5	,, 7	,, 7	Scanty eruption.
J. M.	Steward	,, 5	,, 7	,, 6	Scanty eruption.
P. M.	Waiter	,, 7	,, 9	,, 9	Abundant eruption.
A. C.	Trimmer	—	,, 11	,, 11	Abundant eruption.
J. M.	Waiter	?	,, 8	,, 11	Sparse eruption.
J. P.	Trimmer	April 7	,, 9	,, 8	Sparse eruption.
M. M.	Seaman	,, 8	,, 11	,, 10	Sparse eruption.
J. C.	Steward	—	,, 12	,, 14	Very sparse eruption. No history of sickening.

To this list there must be added three other patients, two of whom were directly related to infection on or from the ship, and a third whose origin has not been satisfactorily explained.

A passenger, who had left the ship at Liverpool, and, after spending a few days in London, had proceeded to Glasgow on a visit, was detected with a discrete small-pox eruption by a medical practitioner whom he had consulted shortly after arrival on April 9th.

This man had travelled from the South by motor car to a town near Glasgow, and after being shaved in a local barber's shop in Uddingston had traversed the city in several tramcars and buses, with a fully developed eruption. The itinerary followed during this journey was ascertained in detail, and published in the press, with a recommendation that any person who might have travelled on these vehicles at the time specified should take the precaution of being vaccinated. The date of appearance of this man's eruption was approximately April 8th.

There occurred also an indirect case of infection in the person of a sister of a steward who had proceeded to his home in Glasgow on April 4th, taking with him his kit, which was sorted out and washed a day or two later by the patient, who was taken ill on April 18th, the rash developing on April 20th. This man, who remained well under close observation and who presented no evidence of a recent infection, had, however, been in close contact with one of the cases on board ship. He had developed an abscess on an arm, which was lanced by the surgeon, and, being off duty, had been detailed one night to look after the ship's hospital, and had personally attended to the patient who was removed at Marseilles on March 27th. His sister was infected within a day or two of his arrival home, the contagion being conveyed probably through the medium of his clothing or the dressings of his wound, a quite likely explanation.

The third patient, a boy aged 13, unvaccinated, became ill on April 10th, and was admitted to one of the fever hospitals as acute pneumonia on April 12th, developing a small-pox rash on the evening of the same day. His father, a dock labourer, had worked at the dock shed in connexion with another ship during the time of arrival of the *Tuscania* alongside, but had no connexion with this vessel or its contents. Any association of this kind must be regarded as much too slender, since it would in any case presuppose an incubation period of five days. On the other hand, the boy's father gave a history of having been ill a month previously, a few spots appearing on his face, the sole remaining evidence of which is some half-dozen faint pinkish marks on his forehead. The illness may or may not have been a very mild attack of small-pox. If so, the source of his infection is quite unknown.

Source of the Infection.

The list given above shows the dates of approximate sickening and the dates when the rash appeared. Taking the latter dates, the cases developed as follows: April 5th, one case; 6th, three cases; 7th, three cases; 8th, two cases; 9th, two cases; 11th, two cases; 12th, one case. Reckoning back fourteen days from these dates, it may be inferred that there existed a source or sources of infection operating continuously on board ship between March 22nd and 29th as an approximate period. Further, the widespread character of the subsequent outbreak among passengers and crew alike points to equally widespread opportunities afforded for contracting infection. According to a statement issued on April 25th by the Ministry of Health, 45 persons from the *Tuscania* have been notified as having small-pox from various parts of the country. A clear picture of the incidence of the outbreak awaits further detailed information, but it would appear that the great majority of those who contracted infection on board were passengers, waiters, and stewards. The evidence points strongly to the presence among one or other of these groups of a "missed" case or cases in an infective condition between the dates mentioned above. The possibility of this was recognized as soon as cases began to occur, but a careful examination of passengers and crew who had arrived in Glasgow failed to reveal the presence of any such recent infection. As there is no indication that the source of infection persisted after the ship left Marseilles, it may be surmised that the "missed" case or cases, unreported and unrecognized, had occurred among the passengers who landed at that port.

Revaccination of the ship's complement took place between March 29th and April 1st, all but three persons submitting. Those who disembarked at Marseilles were not revaccinated. As regards the cases which ultimately developed small-pox in Glasgow, it is apparent from the dates of this revaccination and those of sickening that these patients must have received their infection several days prior to the date of the adoption of this precaution. This procedure, though promptly undertaken, was, unavoidably in the circumstances, too late to prevent the damage that had been done.

As cases of small-pox began to develop in Glasgow and elsewhere it became apparent that the likelihood of a freely circulating source or sources of infection having been present on board had to be taken into account, and it was considered advisable not only to disinfect thoroughly the whole ship, particularly the sleeping quarters, but to remove for disinfection all the ship's linen, etc., amounting to 35,000 articles. The living quarters of the ship were finally cleaned out, and repainted by the owners.

The introduction of small-pox into this country by sea in such volume and with such wide distribution is, fortunately, unique in epidemiological experience. It frequently happens that a ship arrives at a home port from the East, having deposited a case or cases of small-pox at an intermediate port, or with a case or two on board. In many instances, revaccination of the ship's complement has already taken place on the occurrence of the first case. Removal of the sick, medical examination of the personnel, and revaccination, followed by surveillance for the prescribed period, has been the routine procedure followed. Within the past few years no instance has occurred of small-pox developing among contacts travelling to Glasgow by infected ships. The problem of administration set by the *Tuscania*, however, involving the strict supervision of so many contacts and the prompt detection of the first signs of the disease, gave rise to considerable difficulty and anxiety. From the ostensible medical data of the ship's voyage so great an aftermath of infection could not have been anticipated. It was impossible to reckon with the accident of the "missed" case and its inevitable sequel.

An unfortunate incident of this kind, even if most unusual, is an indication of the possibilities which may arise on shipboard during transit from a country heavily infected with small-pox. The lesson of the episode is not so much a question of the imposition of strict measures of quarantine as of ensuring that passengers from, and crews of ships proceeding to, infected countries should be protected by recent revaccination.

Public Health Department,
Glasgow, May 6th.

MEDICAL CANDIDATES AT THE FORTHCOMING PARLIAMENTARY ELECTION.

THE following members of the medical profession have, we understand, been chosen for nomination as candidates for election to the House of Commons at the forthcoming General Election.

ENGLAND.

LONDON BOROUGHS.

*Dr. A. Salter (Lab.), Bermondsey West.
Dr. H. B. Morgan (Lab.), North-West Camberwell.
Dr. J. D. Cooke (C.), Peckham.
Dr. G. E. Spero (Lab.), Fulham West.
Dr. W. H. Summerskill (L.), Wandsworth (Balham and Tooting).
Dr. Ethel Bentham (Lab.), Islington East.
Dr. C. W. Brook (Lab.), Balham and Tooting.
*Sir Henry Jackson (C.), Wandsworth Central.

ENGLISH BOROUGHS.

Dr. R. O. Moon (L.), Oxford.
Dr. F. G. Bushnell (Lab.), Moseley.
*Sir Richard Luce (C.), Derby.
*Sir Thomas Watts (C.), Withington.
Dr. Joseph Robinson (Lab.), Withington.
Dr. J. W. Leech (C.), Newcastle-upon-Tyne West.
Dr. A. B. Howitt (C.), Preston.
Mr. Somerville Hastings (Lab.), Reading.
Dr. Haden Guest (C.), Salford.
Dr. Betty Morgan (L.), Sunderland.

ENGLISH COUNTIES.

Dr. J. V. Shaw (L.), Ilkeston.
Dr. R. A. Lyster (Lab.), Winchester.
*Dr. A. V. Davies (C.), Royton.
Dr. Stella Churchill (Lab.), Brentford and Chiswick.
Dr. R. Lyons (Lab.), Hendon.
The Right Hon. Christopher Addison (Lab.), Swindon.
*Dr. H. C. Haslam (C.), Horncastle, Lincs.
*Dr. F. E. Fremantle (C.), St. Albans, Herts.

WALES.

WELSH BOROUGHS.

*Dr. J. H. Williams (Lab.), Llanelly.
Dr. J. H. Morris-Jones (L.), Denbigh.

SCOTLAND.

SCOTTISH BURGHS.

*Dr. W. E. Elliot (C.), Kelvingrove, Glasgow.
*Dr. D. Shiels (Lab.), Edinburgh East.

SCOTTISH COUNTIES.

Dr. J. Hunter (L.), Dumfries.
Dr. R. Forgan (Lab.), Renfrew Western.

UNIVERSITIES.

*Dr. E. Graham Little (Ind.), London University.
*Sir George Berry (C.), Scottish Combined.
Dr. J. Kerr (Lab.), Scottish Combined.
*Professor T. Sinclair (C.), Belfast (Queen's) University.

* Denotes sitting member.

England and Wales.

The Eastman Dental Clinic.

THE foundation stone of the Eastman dental clinic at the Royal Free Hospital, London, was laid by the Prince of Wales on April 30th. This clinic is the result of a gift of £200,000 by Mr. George Eastman, chairman of the board of the Eastman Kodak Company, who, some years ago, founded a dental dispensary in Rochester (New York), and has been convinced that the marked success achieved there could be repeated elsewhere. To secure his offer for the building and equipment of a clinic in London a sum of £100,000 was provided by the generosity of Lord Riddell and Sir Albert Levy, respectively the president and treasurer of the Royal Free Hospital, to serve as an endowment fund. The maintenance of the clinic, however, is estimated at £20,000 annually, so that further sums are needed if the Royal Free Hospital is to be relieved of all charge in this connexion. The Prince of Wales emphasized the importance of dental health, and said that prevention, in the form of special provision for children and for expectant and nursing mothers, would be a feature of the clinic's work. He hoped that this compact institution, dealing with all aspects of dental healing, would give a further impetus to the education of public opinion in dental matters, and he added that this gift again exemplified the friendship which existed between this country and the United States. The Prime Minister, who made formal acknowledgement of Mr. Eastman's gift, remarked that teeth reacted upon digestion, and digestion upon temper, and suggested that if all people had perfect teeth there would be less gloom and pessimism in the body politic. Mr. Baldwin added that the generosity of the wealthy citizens of America had become proverbial; they gave their money in the wisest directions—towards education and health. No gift could be more welcome here at a time when such keen interest was being taken in the health of children and mothers. Without health there could be no proper education, and without education the future citizens could not take their proper place in the life of the country and of the world. Mr. Baldwin also paid a tribute to the devoted work which women, medical and other, were doing in the hospitals and clinics, and in connexion with women's and children's welfare. It was largely as a result of their labours that infant mortality had been reduced to one-half of what it was in his own youth. A visitor at the ceremony, Mr. Harvey J. Burkhart, director of the Rochester dental dispensary, brought the good wishes of the American Dental Association, of which he himself had been president.

Leicester Royal Infirmary and Children's Hospital.

In spite of the continuance of adverse industrial circumstances during the past year, there has been a considerable increase in the financial endowment of the Leicester Royal Infirmary and Children's Hospital. In the annual report of the board of governors for 1928 it is stated that for the first time in history the annual subscriptions of this institution passed the £10,000 mark. There was a slight fall in donations, but a "record" total of over £45,000 was received through the Saturday Hospital Fund, this representing an advance of £1,440 on the 1927 figure. During the year 242 new subscribing firms joined this fund, and it is confidently hoped that with the arrival of better trade conditions a total income of £50,000 from this source will be obtained. The extension and reconstruction of the Infirmary is proceeding. Rebuilding of the central wing was commenced last August, and it is expected that the new wing will be ready for occupation this year. We referred to the opening of two new operating theatres in our issue of February 2nd (p. 219), and the kitchens and domestic department have been simultaneously enlarged and improved. The number of in-patients during the year under review was 7,380, as compared with 6,788 in 1927. An interesting comparison is indicated in the annual report between the accident cases dealt with in the two years; it is noted that a large increase has occurred in traffic accidents from county areas, motor cars being particularly involved. The approximate cost of such traffic accidents to the hospital during the year is estimated at £1,831, and the expense incurred in respect of accidents generally now exceeds £10,000. Over £3,000 was devoted to the purchase of radium during 1928, and, since last December, this element has been available for use in the form of platinum needles, not only in the Infirmary, but also in certain other local hospitals; an increase in the demand for bed accommodation has naturally followed. Priority of admission to the Infirmary is given to cancer patients who are recommended from the local cancer clinic for operative and other treatment.

Child Guidance Clinics.

In consequence of generous financial assistance by the Commonwealth Fund, the Child Guidance Council hopes to open a clinic in Canonbury Place, Islington, during May. This will be available for the treatment of children of any age referred, with the consent of the parents, by the school medical officer of the London County Council, by child welfare centres, day nurseries, and social agencies, or by education authorities and agencies outside the London County Council area. Facilities will be provided at the clinic for the practical training of psychiatrists, psychologists, and social workers. Close co-operation is being established with the University of London and its various centres—for example, a one-year post-graduate course, beginning in October, is being established by the London School of Economics for the training of mental welfare workers, including those who devote themselves to children; special opportunities will be given by the clinic to those who attend that course. In a leaflet issued by the Child Guidance Council the importance of co-operation with all authorities, societies, and individuals concerned with the welfare of children is emphasized. It will be ready to place any information on the organization of clinics or of methods of training at the disposal of inquirers, and it is announced that meetings will be arranged or assisted in order to attract the interest of medical practitioners, parents, teachers, and social workers. Further information about the work of the council may be obtained from the secretary, 24, Buckingham Palace Road, S.W.1. In this connexion it may be recalled that the Jewish Health Organization of Great Britain opened a clinic last year for the study and treatment of maladjusted and delinquent children and adolescents of any race or creed (see *Journal*, October 13th, 1928, p. 675).

Proposed Bermondsey Health Centre.

The Bermondsey Borough Council recently applied to the London County Council for sanction to borrow £11,000 for the acquisition of a site for the erection of a building in which to establish "a clinic for the diagnosis and treatment of cases of rheumatism, arthritis, cancer, etc., and incorporating therewith various other existing services—namely, maternity and child welfare, tuberculosis, and dental clinic." (The London County Council report on the subject remarks that it is not stated what "etcetera" means, but it may cover the whole field of medicine and surgery.) The Finance Committee of the London County Council, after consultation with the Public Health Committee, takes the view that as the premises at present occupied by the tuberculosis dispensary and by one of the maternity and child welfare centres were purchased quite recently, and expenditure was incurred in rendering them suitable, the necessity for the proposed scheme appears to depend on the need there might be for the establishment of a clinic for the other purposes mentioned. As to this the county medical officer of health has advised that diseases such as arthritis, rheumatism, and cancer cannot be conveniently dealt with, either for diagnosis or treatment, except as part of the work of a modern hospital. To establish an *ad hoc* clinic as proposed, in the form of an out-patient department, as a separate unit altogether apart from the highly specialized equipment of the hospital, would be inefficient and expensive. The borough council states that there is not sufficient accommodation at the Bermondsey and Rotherhithe Hospital for the provision of the alternative scheme, but this is disputed. The Finance Committee is recommending to the London County Council that the application of the Bermondsey Borough Council be not entertained.

Ireland.

Public Health in the Free State.

IN his last report Dr. E. F. Stephenson, Chief Medical Adviser, Department of Local Government and Public Health, has stated, with regard to the appointment of county medical officers of health, that there is no reason for despondency at the delay in appointing county medical officers of health in the Irish Free State. The novelty of the position in the Free State and the adverse financial circumstances that prevail in some counties acted as deterrents at the outset, but the importance of the question and the necessity for whole-time health officers is now generally recognized, and it is felt that further delay in making the appointments cannot be condoned. Dr. Stephenson said that no other activity on the preventive side of public health administration gave a more direct return than the early diagnosis and treatment of children's ailments. The cost per child was inconsiderable; it purchased an increase of health, happiness, and efficiency for the individual, and cumulatively for the community at large, while it saved many from permanent incapacity. During 1928 approximately 12,000 children were inspected in Dublin. Of these, 7,000 had defects (one or more); 5,000 of these required treatment immediately, and 2,000 were under observation; 2,243 were suffering from their tonsils, and of these 507 required treatment, the remainder being put under observation; 1,433 suffered from defective vision, and of these 1,000 required treatment immediately, 433 being under observation. These figures did not include cases of squint, of which there were nearly 500. There were also 630 cases of external eye affection. Of skin diseases, including ringworm, there were 442 cases, 300 of which required urgent treatment, and 142 were under observation. There were 227 cases of ear disease, of which 132 required treatment, and the remainder were under observation. In Cork the scheme had been in operation for five years and the arrangements were more fully developed. The supervision of the school medical officers extended over the pupils at thirty-nine schools. In 1928, in course of inspection (excluding dental defects) defective vision constituted the most numerous group, followed by enlarged tonsils and by septic sores and minor injuries. Conditions of uncleanliness were detected in 17.5 per cent. of the children inspected, a slight improvement on the experience of the previous year, and 16.6 per cent. were found to be below normal standard as a result of defective nutrition. Of 5,605 school children examined for their teeth 3,531 were found to require treatment. In the counties Kildare, Offaly, and Louth, medical inspection was inaugurated towards the close of 1928, and already 3,549 school children had been examined in co. Kildare, 3,667 in Offaly, and 970 in Louth. Speaking generally, it could be said that inspection had revealed a high incidence of decaying teeth, defective sight, enlarged tonsils and adenoids, whilst all forms of tuberculosis, deformities, and cripples were fewer than anticipated. Provision was made under each scheme for the correction or treatment of defects of eyes, ears, teeth, throat (enlarged tonsils and adenoids), minor ailments, and conditions of uncleanliness. In affording treatment and correction, the existing facilities—hospitals and organizations—were used as far as possible. Ophthalmic surgeons and surgeon dentists attended at convenient centres, and cases requiring more specialized treatment were sent to them. In Dublin the general and specialized hospitals were used for the treatment of eyes, ears, and throat; and dental clinics were held at the Carnegie Institute. The general hospitals and the Eye, Ear, and Throat Hospital were utilized also in Cork, and defective teeth were treated at the Dental Hospital. In the counties, visiting ophthalmic surgeons and surgeon dentists attended at the extern department of the county hospital and at other convenient centres. Fifty per cent. of the cost of these services was borne by the State. This involved a great saving to the rates, as, in the absence of a school medical service, practically the entire cost of providing treatment would fall on the rates. During 1928 the following received treatment in Cork: (1) At the Eye, Ear, and Throat Hospital and by private practitioners, (*a*) operative treatment, 196; (*b*) refractions, 435; (*c*) glasses prescribed, 427; (2) at school clinics, minor ailments, 512; (3) at the dental hospital and by own dentist, 1,244. After-care and follow-up was generally carried out through district nursing societies, and, where district nurses were not available, by whole-time school nurses. There were 125 district nurses in the Free State, and six additional appointments were pending.

Infant Aid Society, Dublin.

The annual meeting of the Infant Aid Society was held recently in the Carnegie Child Welfare Centre, Dublin, under the chairmanship of Dr. R. J. White. The report stated that during the year 29,023 visits were paid by voluntary workers, 1,090 garments were provided for distribution by the sewing guild; 24 additional articles of clothing were provided by the pupils of Muckross Convent, and 108 were presented from other sources, making a total of 1,222. In addition, 446,360 pint bottles of milk were distributed. Of this number 426,686 were given free, and the remainder were sold at a reduced rate. This total was an increase of 112,668 over last year. Professor J. M. O'Sullivan, Minister for Education, in moving the adoption of the report, referred to the growing belief among the public that relief should be borne by the State, and deplored the acceptance of the idea which, he said, was based on a wrong ideal. His view was supported by Sir Joseph Glynn, who spoke of the need for voluntary workers, and described the appalling conditions in which some of the slum dwellers existed.

Scotland.

Mental Defectives in Scotland.

ARRANGEMENTS are being made in connexion with the visit of the Duke and Duchess of York to Edinburgh, at the end of the present month, for the laying of the foundation stone of a second instalment of the buildings at Gogarburn, intended to house mental defectives. The Edinburgh District Board of Control in 1923 purchased the house and estate of Gogarburn, comprising 58 acres of land, and shortly afterwards purchased a neighbouring estate extending to 361 acres, with the object of developing a scheme for mental defectives. This scheme, when completed, is expected to cost over £400,000, of which about one-half will be contributed by the Treasury. At the present time some 60 feeble-minded persons are accommodated in the renovated mansion house of the estate, and when the other buildings, of which the foundation stone is to be laid in the present month, are completed, there will be accommodation for 500 inmates. The scheme, however, includes plans to permit of extensions which, if necessary later, will raise the accommodation to 1,000 persons, and will serve both Edinburgh and the south-eastern counties of Scotland. Those of the patients who possess sufficient mental development will be employed in gardening, boot repairing, laundry work, and other suitable employment, and a part of the grounds has been planted with willow trees, of which the branches are intended for use in basket-making by the inmates. The institution will be not merely a place of detention for adult defectives, but also a place of training for educable children under 16 years of age.

Health of Dunfermline.

The annual report for 1928 to the magistrates of Dunfermline, by Dr. C. Barclay Reekie, medical officer of health for the burgh, has just been issued. With regard to infectious diseases, there have occurred in the burgh 118 cases of diphtheria, 236 of scarlet fever, 537 of measles, 131 of whooping-cough, and 128 of chicken-pox, these forming the chief causes among 1,342 notifications. There were no deaths from scarlet fever, but the number of notifications of diphtheria, of which the highest incidence took place in November and December, is the largest received for several

years. An outbreak of measles in February, March, and April attained epidemic proportions, and 5 cases terminated fatally. Whooping-cough was responsible for 4 deaths. Insulin was supplied to 10 diabetic patients during the year—to 4, in necessitous circumstances, free, to 6 on payment. There were 52 notifications of pulmonary tuberculosis, as compared with 47 in 1927 and 61 in 1926, and there were 21 deaths from this cause. Three health visitors were employed to make inquiries into the circumstances and home conditions when a notification was received, and the patient thereafter attended a tuberculosis dispensary or was visited by the medical officer of health. During the year there were 100 patients in the area suffering from pulmonary tuberculosis, and the total number of visits paid was 931. Sanatorium treatment was carried out in three sanatoriums, the admissions during the year for pulmonary tuberculosis amounting to 30. Considerable activity had taken place under the maternity service and child welfare scheme. Forty-four infants died within the first year of life, as compared with 52 in the previous year, death in 22 cases being due to ante-natal causes. The infant mortality rate was 69, as compared with 78 in the previous year, the number of deaths registered having been 686. Of these, 542 cases were attended by a doctor, and 144 by a midwife. There were now four child welfare clinics in the burgh and its environs. The local authority had some time ago established a maternity home, and in this 278 cases were treated, an increase of 64 over the number of the previous year. Out of the 703 children whose births had been registered during 1927, 364, or over 50 per cent., were successfully vaccinated, while declarations of conscientious objection were lodged in respect of 230, or 30 per cent. The corrected death rate amounted to 12 per 1,000 of the estimated population.

Edinburgh University Medical Buildings.

At the statutory half-yearly meeting of the general council of the University of Edinburgh, held on May 1st, Principal Sir Alfred Ewing presided, and referred to his resignation of the office of principal at the end of the current academical year. He commented on the very exacting nature of the office and the heavy tasks that it involved, for which in the future he felt himself unequal. The Scottish universities, he said, were very fortunate in their constitution, and the people who had framed them had been extraordinarily far-seeing, for the constitution admitted of expansion and had produced valuable and effective progress in recent years. Great developments were now proceeding in the scientific departments at the King's Buildings, and progress had been made in the departments of arts and medicine. One of the last acts with which he had been concerned as principal was a scheme for the interior reconstruction of much of the medical buildings. Those buildings had been a splendid novelty in their day, but they had become out of date owing to changes in the subjects to be taught and in the manner of teaching them. A drastic internal reconstruction would be necessary, which would cost something like £60,000, but he believed this money would be available before he relinquished office. He referred also to the recent development of hostels for students at Edinburgh.

New Principal of Edinburgh University.

The curators of Edinburgh University have offered the principalship of this University, rendered vacant by the retirement of Sir Alfred Ewing at the end of the present session, to Sir Thomas Henry Holland, K.C.S.I., D.Sc., F.R.S., rector of the Imperial College of Science and Technology, London, and he has accepted the appointment. Sir Thomas Holland is at present in South Africa; he is in his sixty-first year, and has held several important appointments in India. He was in charge of the geological survey of India from 1903 to 1909, was chairman of the trustees of the Indian Museum for four years, and president of the Burma Oil Reserve Committee in 1928. For a considerable period he was associated with Calcutta University, where he became dean of the Faculty of Science in 1909. In 1915–16 he was president of the Institute of Mining Engineers, and from 1909 to 1918 he was professor of geology and mineralogy in Manchester University. During the war he was president of the Board of Munitions of India. He has published numerous memoirs on petrology, geology, and anthropology.

Poliomyelitis in Orkney.

A report was submitted to the meeting of Orkney County Council, held at Kirkwall on May 3rd, from Dr. Bannerman, medical officer of health for the county. In this communication the medical officer reported that an outbreak of poliomyelitis had occurred in the island of Stronsay. A number of persons had been affected, and two patients had died of the disease. The others were, however, progressing favourably, and the epidemic was well under control. All known contacts had been placed under observation and isolated as well as possible. It was not anticipated that the disease would spread further, though it was possible that some of the contacts might still develop it.

Correspondence.

TESTIMONIAL TO SIR RONALD ROSS.

SIR,—We, the undersigned, write to inform your readers that a Fund, called the Ross Award Fund, is being started in order to give some recognition to Sir Ronald Ross, K.C.B., K.C.M.G., F.R.S., for his discoveries on the mode by which malaria is carried and for his lifelong efforts regarding the prevention of that disease. Those wishing to subscribe may send their donations to Lloyds Bank, Ltd., 110, High Street, Putney, London, S.W.15; cheques, etc., to be crossed "Ross Award Fund a/c."

The sum of £244 13s. 6d. has already been subscribed spontaneously by American friends and some personal friends in England, and this necessitates some definite action being taken here in the matter, in order to put such donations on a proper basis.

We have to thank you, as Editor of the *British Medical Journal*, for consenting to publish a list of the names of the donors from time to time in your columns, in order to minimize clerical work.—We are, etc.,

JAMES BARR.	G. H. F. NUTTALL.
CHARLES BROQUET (Paris).	EDORADO PERRONCITO (Turin).
J. P. CARDAMATIS (Athens).	ROBERT L. PITFIELD (Philadelphia).
ALDO CASTELLANI.	HUMPHRY ROLLESTON.
JAMES CRICHTON-BROWNE.	C. S. SHERRINGTON.
G. FRANCHINI (Bologna).	DAVID THOMSON.
MAJOR GREENWOOD.	J. G. THOMSON.
W. G. KING, Colonel I.M.S.(ret.).	MALCOLM WATSON.
EWEN J. MACLEAN.	F. PARKES WEBER.
BERNARD NOCHT (Hamburg).	

THE DISTRIBUTION OF RADIUM.

SIR,—On reading the recently published Radium Subcommittee's report one is struck by the immense amount of work which has been carried out and the amount of knowledge accumulated by the committee.

Anyone who has worked with radium in this country during the last few years and who is conversant with the work on the Continent will have welcomed Mr. Souttar's letter on April 27th (p. 787), and the very useful suggestions it contains. Until recently we abused rather than used radium, and it is only of late that any change has taken place. This is largely due to the efforts of Mr. Malcolm Donaldson, who arranged for a large number of surgeons to visit the Curie Institute, where real scientific work in treatment with radium was viewed for the first time. Since that date scientific investigation on the same lines has been carried out in this country, and, as far as our restricted stock of radium has allowed, we have performed quite as good work as anywhere else.

I can echo what Mr. Souttar says about the advantage of using, at the hospitals, the emanation of radium called "radon," rather than radium itself. Not only does the country require the 20 grams of extra radium mentioned in the report, but it requires men who know how to use it, and centres from which it can be used; France already has these centres, with subcentres all round.

I would put in an urgent plea that those hospitals which are already using radium and which have among the members of their staffs some who are at any rate conversant with its use, should be given sufficient radium as soon as it is available to enable them to turn out radon. The amount of radium necessary for this is roughly half a gram at each centre; special apparatus must be installed for the production of radon, but this is easy and not very expensive. These could form the first centres of the system. Gradually the system can be expanded, but it must be remembered that it is easier and quicker to buy radium than it is to train men to use it.

Radon at the present time cannot be obtained in anything like sufficient quantities, and we have to use radium. Radium has certain advantages, especially to the private owner, but the risk of loss and the worry of looking after it is excessive; I speak from experience, as I have a quarter of a gram under my charge. During the last few years I have been constantly asked to send this radium to doctors in the country that it may be inserted into their patients; but, knowing that the doctors have no knowledge whatsoever of radium treatment, I have had to refuse to allow any to go. Radon—which they think is the same as radium—can, however, be obtained, and I have known of this being sent after I had refused to send radium.

Perhaps the most extreme example of ignorance was in the case of a patient I saw in the country a little while ago; I found her suffering from deep carcinomatous ulcers, one of which was six to eight inches across; it had been thought radium might benefit this condition. The doctor, who knew nothing about radium beyond what he had read, wrote to an institution and received a plaque of radon; the dose he could not tell me, and he did not even know that the dose was important. It would have been impossible to place this for twenty-four hours over the whole of the ulcerated surface before the radon had all decayed. One can hardly find words to describe such a travesty of treatment. This sort of treatment has already begun and should be stopped at once.

Radium treatment requires specialists who have had experience which can only be gained through long training, such as we surgeons, who begin to know how radium should be used, still feel the need of. On the other hand, radium is, and must be, regarded as a surgical instrument, and any attempt to treat cancer without a thorough surgical training will end in disaster.

Special surgeons should be appointed to conduct each centre in co-operation with radium specialists, and then only will success be possible. At present we have neither radium specialists nor the surgeons to supply the centres.—I am, etc.,

DUNCAN C. L. FITZWILLIAMS.

London, W.1, May 3rd.

SIR,—I am at one with Mr. Souttar in his anxiety that the radium held by the National Radium Trustees should be most efficiently and economically used, but I would suggest that his outlined scheme is hardly likely to achieve these objects, and, indeed, has many inherent defects.

1. It tends to create a monopoly. All monopolies are bad, in medicine very bad. The physical properties of radium and some of its biological effects are well known, and there are several well-recognized techniques for its employment; the greater the number of brains trying to interpret these effects and to improve the various techniques the better. There is considerable risk of stereotyped methods developing in large central clinics.

2. It will eliminate or seriously hinder the individual worker. Some of the recent advancements in technique have admittedly been due to the individual worker: more can be expected of him, and he should be encouraged.

3. It would possibly be another step towards a State medical service; it would certainly be a great encroachment on private practice. One may take it that these radium experts will be salaried, and if the State provides half the salary it will certainly demand a say in the conditions of their employment. At one end there would be the panel, at the other the radium centre.

4. It does not suggest sufficient provision for patients not of the hospital class.

5. By branding the vast majority of medical practitioners as incompetent to apply radium it would greatly damage the none too high prestige of the medical profession in the eyes of the public.

The scheme is sketched in bare outline and it would be unfair to criticize any but its main points: (*a*) The proposed number of centres is far too few. I suggest that the distribution should be as wide as possible, and that, figuratively speaking, radium should be brought to the door of the general practitioner. (*b*) Until radon is proved to be as efficacious as radium it would be disastrous to run subsidiary centres on radon alone. Although radon is the actual source of radium's power it has one outstanding difference therapeutically—the radiation from radium is constant and even, that from radon rapidly becomes less intense, and in seven days its value is practically *nil*. Much larger initial amounts of radon must be employed to give the amount of radiation that would be obtained from a small relative amount of radium, and even then the duration of the application cannot be so prolonged. It is from the small prolonged dose of radium that the most brilliant results have been obtained. (*c*) By implication the scheme deals with cancer; there are, however, a number of gynaecological conditions causing widespread ill health which are most suitably treated with radium, and these should certainly be catered for. (*d*) The most startling feature in the scheme is that it would debar the vast majority of surgeons from using the radium held by the National Radium Commission. Such restriction would be unique, and its imposition a retrograde step.

I suggest that individual surgeons should be allowed to avail themselves of the use of this radium, but on condition that they render satisfactory notes and reports of the immediate and subsequent history of the patients in whose treatment they have used it. Surgeons failing to comply with this condition should naturally lose the privilege of obtaining supplies from the Radium Commission. One may hope that when radium or radon is available, the charge for its hire will bear a reasonable relation to its cost.—I am, etc.,

Southsea, April 30th. R. K. WHITE, F.R.C.S.Ed.

THE MEDICAL PROFESSION AND UNQUALIFIED VETERINARY PRACTICE.

SIR,—May I be given an opportunity of asking the sympathetic attention of the medical profession to the following matter? In a recent action for slander brought by an unqualified woman practitioner against a qualified veterinary surgeon, the plaintiff called three medical practitioners to testify as to her skill in the medical and surgical treatment of animals: Dr. X said he had sent animals to the plaintiff and had also recommended her to patients of his; she had been extraordinarily successful in her treatment of the animals; Dr. Y said that for a good many years he had sent animals to the plaintiff for treatment, and that he was satisfied with the treatment; Dr. Z said she had sent a dog, which was ill from obstruction of the bowel, to the plaintiff and she had treated it successfully.

These three medical practitioners appear to be well aware that the plaintiff is an unqualified person, but nevertheless they not only consult her, but recommend her to others. May I suggest for the earnest consideration of your readers that it is to be deprecated as a matter of principle that members of the sister profession should give their support to unqualified persons in animal medicine and be willing to come forward and give evidence in their favour. I think it will be agreed by medical men that it is not necessarily certain that a medical practitioner is competent to judge whether any particular treatment is the correct treatment to give in the case of ailing animals, yet to a jury of unprofessional people the fact that members of the medical profession were on the side of the plaintiff would be likely to lead them to believe that the plaintiff was in some manner qualified.

Medical men ought really to be the last to give encouragement to unqualified practice in any form, and I plead that they should treat the sister profession with

some sympathy. The two professions are closely related; the laws governing them are practically identical; the same professional discipline is applied to practitioners in both branches; and, as much recent work has shown, they are close allies in research. Let us, therefore, be allies in protecting the public.—I am, etc.,

Royal College of Veterinary Surgeons, London, W.C.1, May 4th. FRED BULLOCK, Secretary and Registrar.

FORTY YEARS' MEMBERSHIP.

SIR,—It has been suggested that some form of friendly association, similar, perhaps, to the "Old Boys" societies of many public schools, might be formed by those members of the British Medical Association who have attained to forty years' or longer membership. These members would have similarity of interest in point of time and past experience, and possibly such a society might also be an inducement for continued membership of the British Medical Association when some regard it as unnecessary on account of having relinquished active work.

The number of members of the British Medical Association of over forty years' standing is now 968, and it would be of importance, before further steps are taken, to have the opinion of those interested, either through the medium of the *British Medical Journal* correspondence page, or on a postcard addressed to the undersigned. Amongst others, Mr. G. Morgan, a past-president of the Sussex Branch, gives his support to the suggestion.—I am, etc.,

Meadowside, Burgess Hill, Sussex, April 30th. W. W. SHRUBSHALL, Vice-Chairman, Brighton Division.

THE INTRACUTANEOUS TUBERCULIN TEST.

SIR,—I noted with surprise the letter of Mr. Basil Hughes in your columns on April 27th (p. 789) as a contribution to the discussion on intracutaneous tuberculin tests. I had assumed that by now Dr. Wildbolz's urinary tests were gone and forgotten, as they deserve to be; but from Mr. Hughes's letter it seems that they are being resuscitated and presented in a slightly new form.

Dr. Wildbolz first presented a communication on this subject to the French Congress of Urology in October, 1920, when he stated that the urine of subjects of active tuberculosis contained tuberculous antigens. He recommended the use of specially prepared urine for the purposes of an *intradermal* test, and stated that that method depended upon the allergy of the tissues of tuberculous subjects for tuberculous antigen. To prove that the patient would react—that is, was allergic—he gave control intradermal injections of old tuberculin (Mantoux's method). He further insisted that when a tuberculous focus became encapsuled and completely fibrosed the antigens disappeared from the serum and urine of that subject, and hence no intradermal reaction was given on injection of autogenous prepared urine. Dr. Wildbolz seems to have overlooked the fact that, assuming his statements to be true, there is nothing to preclude the kidneys from excreting other antigens besides those of tubercle. It is well known that phthisical patients, especially in towns, are subject to mixed infections. It is thus impossible to limit the type of antigen present in a given urine to that caused by the tubercle bacillus alone. If a phthisical patient with a superadded streptococcal infection reacted to his urine the reaction would be no proof that he was tuberculous, since he is also susceptible to his streptococcal antigen.

In 1921, while house-physician at the Brompton Chest Hospital, I performed an investigation to decide on the diagnostic value of urinary skin reactions. With Dr. Cecil Wall's consent and clinical control, I gave a series of injections to his in-patients. The concentrations were made by the Lister Institute, and the material was kept in hermetically sealed sterile ampoules in the interval before use. I can only say in the compass of this letter that my results showed that Wildbolz's method was not reliable enough to be of any practical use in the diagnosis of active tuberculosis. I have not heretofore troubled to publish my results.

I very much doubt whether giving these injections intramuscularly, as stated in Mr. Hughes's letter, will make the method any more reliable. The reaction obtained by the revised method is stated to be an active oedema. What this means I do not know; perhaps, when hidden in the intramuscular planes, the detection of reaction is more dependent on that elusive possession—clinical acumen!

I can quite understand Dr. Wildbolz becoming uncertain of intracutaneous reactions when we remember the pseudo and combined reactions given by both the Schick and the Dick tests. Bearing this in mind, I can also appreciate Dr. Camac Wilkinson's desire to receive full details from Professor Lyle Cummins as to what he means by a positive intracutaneous tuberculin reaction.—I am, etc.,

London, E., April 29th. MARK TREE.

THE RELATION OF ALASTRIM AND SMALL-POX.

SIR,—With reference to the relationship of alastrim and small-pox or variola major, may I give an experience of mine some years ago? I was called to a farm some twenty miles from town to see a girl, aged about 18, whom I found suffering from small-pox in a moderately severe form, the pocks being numerous but discrete. On inquiry I found that among the natives on the farm, some fifteen in number, there had been eleven cases of what they called Kaffir-pox; two still showed dried-up pustules and had evidently all been cases of amaas or mild small-pox. The only patients who had escaped were some old men who had had the disease and two youngsters who had been vaccinated in Basutoland. Five of the younger children of the white family had had it and were convalescent. The last patient, this daughter, had the disease much more severely than any of the others, and, alarmed by the appearance of her face and body, which were covered with big pustules, the parents had sent for me. I vaccinated all those who had not yet had the disease, but found that the father was already infected, and showed the prodromal symptoms and temperature. Three days later I visited the farm again and found him the victim of a very severe confluent attack, from which he died. Evidently the mild disease, like others of the exanthemata, may become intensified in virulence and pass into variola major. Precautions should never be relaxed, and all possible means should be taken to cut short an epidemic, even if the cases are all mild to begin with.—I am, etc.,

JOHN A. GRAHAM, M.B., C.M.

Bethulie, South Africa, April 8th.

INTRAVENOUS INJECTION OF UROTROPINE.

SIR,—In the account of the meeting of the Sections of Urology, Pathology, and Therapeutics of the Royal Society of Medicine published in your issue of April 6th (p. 645), I notice that in discussing urinary antiseptics no mention is made of urotropine given intravenously. Mr. Swift Joly is reported as saying that there seemed to be practically no antiseptic of any value at all at the kidney level.

My experience is that in cases of acute pyelitis the intravenous injection of urotropine is truly a specific. In a few hours a temperature of 104° to 105° F. falls permanently to normal, and the pus disappears from the urine. I inject 5 c.cm. of 40 per cent. urotropine solution as supplied in ampoules by Schering. This is the usual treatment of acute pyelitis by Continental practitioners; it is quite devoid of unpleasant effects, and may be repeated (if necessary) twice daily for some days. I should add that it appears to be of very little, if any, benefit in cases of cystitis.—I am, etc.,

Alexandria, April 15th. E. N. RUSSELL.

TREATMENT COMMITTEES:

A Suggestion for County and County Borough Councils.

SIR,—In connexion with the transference of Poor Law functions to county councils and county borough councils, may I suggest that it would be wise for medical men to use what influence they can to persuade each of these bodies to set up a new committee to deal with all forms of the treatment of disease. The public health committee would then control only the prevention of disease, and I submit that this should be the sole duty of the medical officer of health, as its official. All treatment of disease, whether in

hospital, sanatorium, out-patient clinics, or the patients' own homes, and the treatment of children of every age, would be under its supervision. The medical officer of health is not necessarily (if a whole-time officer not usually) a person with special experience in the treatment of disease, and his duties should be confined to its prevention. Even the treatment of cases of infectious disease is not, I think, in his province, though for convenience of administration it is usually allotted to him. His real business is to prevent their occurrence, and to prevent further infection from those under treatment.

On this treatment committee which I propose should be set up, or on a hospital subcommittee of it, should be co-opted men of special experience in hospital work, both medical and administrative; and on the committee should, I think, be co-opted medical practitioners experienced in all the other work of the committee, including medical men or women specially experienced in diseases of children. I suggest that maternity work should be placed under this committee, as it is more a matter of treatment than of hygienic measures during pregnancy, and that some skilled obstetricians should be co-opted on it, and perhaps the child welfare work should also be under this committee. All Poor Law asylums will doubtless be transferred to the asylums committees of the councils, and I suggest that mental deficiency work should be transferred to this committee also.—I am, etc.,

Bristol, May 5th. CHARLES A. MORTON.

MEDICAL INSURANCE AGENCY.

A Scottish Office.

SIR,—Owing to the enormous growth and ever-increasing pressure of work in the Medical Insurance Agency, the Committee of Management have decided to establish an office in Edinburgh, which they feel sure will have the effect of minimizing the delay in dealing with inquiries and claims from the profession in Scotland and the counties of Northumberland and Durham.

The Scottish Office will be under the control of Mr. R. Chalmers Fergusson, and he will commence his duties at the British Medical Association House, 7, Drumsheugh Gardens, Edinburgh, on June 1st.

It may be that the arrangements we have made will need variation, but we shall alter these if necessary in order to carry out our primary purpose—namely, giving sound and unbiased advice to doctors in matters relating to all classes of insurance.—I am, etc.,

Medical Insurance Agency, B.M.A. House, Tavistock Square, W.C.1, May 1st. L. FERRIS-SCOTT, Honorary Secretary.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Estimates for Health Services.

THE House of Commons went into committee on May 1st on estimates of £14,228,664 for Ministry of Health services in England and Wales. Introducing the estimates, Mr. CHAMBERLAIN said the constantly recurring increases in the expenditure of his department grew with the increase of population, and the extending appreciation on the part of the people of the benefits which they received from health services. Housing was the largest single item of cost in the estimate, and the increase in that item was £485,000, rather greater than the increase in the total estimates. An abnormal spurt in building had ended in September, 1927, and nothing like it would recur till housing authorities were satisfied that prices had touched bottom. The total of houses completed in 1928 was not less than 169,000, the vast majority of them under an annual value of £26 a year. Since the armistice 1,241,500 houses had been built in this country. Local authorities were responsible for 467,500. The pensions work of the Ministry was proceeding with satisfactory regularity, and 88,560 old people, widows, or dependent children had been freed from dependence on the guardians by receipt of pensions and allowances. During last year the new National Health Insurance Act came into force, and its provisions had proved beneficent. The genuinely unemployed now lost nothing of their health benefit by reason of arrears. The Act of 1925 had brought in 200,000 voluntary contributors who had previously been excluded. The extension of national health insurance by the Act of last year to share fishermen and certain other workers had been received with satisfaction. Turning to the health services, Mr. Chamberlain said the estimates before the House were probably the last main estimates for his department which provided percentage grants. Another service aided by a similar grant was that for which the Board of Control was responsible. That Board was responsible for the treatment of insane persons, and also of mental deficients, work which was not very attractive, but very valuable to the community. At present about 141,000 insane persons were under care in England and Wales. That number showed a fairly regular increase of about 2,000 a year, an increase not necessarily meaning that the proportion of insane persons to population was increasing at that rate. Insanity was a disease affecting adults and not children, and as the expectation of life continuously increased, so a larger proportion of the population became susceptible to this disease. The figure of recovery was less satisfactory. It was surprising and disquieting that the rate of recovery among insane persons seemed always to remain at about 30 per cent. One might, however, assume that medical superintendents were more careful in classifying cases as recovered than they used to be, and that an increase might exist which was not reflected in the figures. He could not say how the figures of recovery compared with those in foreign countries. The one class of case in which there was a definite improvement in recovery was the case of general paralysis of the insane. The new treatment of that was to give the patient another disease—malaria. By it general paralysis of the insane was in many cases capable of considerable improvement, and possibly of cure. As part of the equipment of a mental hospital to-day a portion of a ward with one or two beds in it would be shut off and surrounded by mosquito curtains. An infected mosquito was brought down from London and introduced, and after that the matter worked out in its own way. He wished that further progress could be made in lunacy research, for which at present local authorities had no power to devote money. It was one of the matters which might well arise out of the report of the Royal Commission on Lunacy, a report which would, he hoped, provide part of the work of another Parliament.

Mental Deficiency.

Turning to mental deficiency, he remarked that some misunderstanding had arisen on the attitude of the Ministry of Health to the Wood Report. That committee issued two very long reports on various matters concerned with mental deficiency, and he had said that he must have time to consider that part of the report which dealt with adults before he could say whether all or how much of it should be published. He had no intention of withholding from local authorities anything they ought to know which was in the report. Probably the most important part of it for them consisted of the figures of Dr. Lewis's investigations into mental deficiency, which had already been published. The rest was having his personal consideration, and he hoped to make a decision on it before long. Dr. Lewis estimated there were 300,000 mental deficients in this country, about double the estimate of the Royal Commission in 1908. That must give rise to serious anxiety and apprehension. In some countries a system of sterilization was practised, and the Ministry of Health was asked why it should not follow that example. Personally, he thought that some day there would have to be a scientific inquiry into this. Up to the present they had not sufficient data to enable them to come to any satisfactory and definite conclusion. But he would say this, that the mental deficients of the country were the product of one-tenth of the population, and out of that one-tenth only one-tenth, or 1 per cent. of the whole, were themselves definitely defective. The others might be indefinitely defective, unrecognizable as such, or might only be carriers. Therefore any process of sterilization could not possibly deal satisfactorily with the problem. He could not say that the mental deficients came from any special district or class in the community. They were widely distributed. The ideal method for dealing with them, in the light of our present knowledge, was in colonies, which, if they were to be carried on with greatest efficiency, must consist of not less than 1,000 persons. These colonies should be places where mental deficients should, as far as possible, be trained to a point where they could be released under licence and supervision. It was impossible to carry out an ideal of that kind at a single step. To provide one of these colonies was costly, and the Government must have regard to the financial limitations of the country. They would have to proceed slowly. Even now they could do much to mitigate the lot of these unfortunates and render them less dangerous to society and to themselves. Under the Local Government Act, which placed many institutions in the hands of county and county borough authorities, it would be possible to devote some of these institutions to reception of certain types of mental deficients and insane persons. Seeing that the cost of a bed in a mental hospital was about twice that in a mental deficiency

colony, local authorities would perhaps make a bargain for themselves if they allotted some of these institutions to the treatment of insanity.

Miss WILKINSON asked whether the Minister proposed to increase the care of the borderline cases not yet certified.

Mr. CHAMBERLAIN said he could not, under the rules of the House, discuss the question of legislation for such a purpose, but so far as administration was concerned his answer was "Yes." To make further provision for borderline cases was part of the general policy which was being pursued by the Board of Control all over the country.

On May 6th Lord EUSTACE PERCY told Mr. R. Morrison that the mental deficiency report was receiving his careful attention, but local authorities and other bodies concerned must also have time to consider its recommendations before any proposals for action upon them could usefully be discussed. Sir KINGSLEY WOOD, on the same day, informed Mr. Morrison that the Minister of Health was giving his personal consideration to the adult section of the report, and hoped to be able to make a decision with regard to its publication before long.

State-aided Services.

Mr. Chamberlain then turned to State-aided health services. He said that four came under the Ministry of Health—tuberculosis, venereal diseases, the welfare of the blind, and maternity and child welfare. The year 1928 gave the lowest death rate on record both for pulmonary and non-pulmonary cases of tuberculosis. In the non-pulmonary tuberculous cases 80 per cent. of the decline occurred among children. The death rate among such cases from 1901 to 1910 was 500 per 1,000,000. Last year it came down to 173. At the same time the condition of those who survived was much better than it used to be. Many a child went about to-day with straight legs who formerly would have been a permanent cripple. Blind persons were better looked after to-day than ever before. In 1922 there were 8,000 cases of ophthalmia neonatorum. In 1927 that number had fallen to 5,000. The maternity and child welfare work had produced the most striking results in all the health services in the last generation. The infant mortality rate came down from 70 per 1,000 in 1927 to 65 per 1,000 in 1928. In the five years he had been at the Ministry of Health it had declined from 75 to 65 per 1,000. In 1928 6,560 babies survived which would have died had they been born under the conditions of 1924. The lives saved were a barometer of the general rise in the standards of health of young children. This wonderful fall in the death rate was the product of a number of causes, but the actual expenditure on grants proved there was a steadily expanding service for which a major share of the satisfactory results might be claimed. In 1924-25 £814,000 was spent by Exchequer grants on maternity and child welfare services. In 1928-29 the sum was £1,072,000, and in the present estimates £1,163,000 was set apart for the purpose.

Maternal Mortality.

A year ago he had told the House that the figures for maternal mortality had practically not moved for twenty years. He set up two committees, one to inquire into the conditions affecting the practice and profession of midwifery. That committee had nearly completed its labours, and he hoped in a few weeks to have its report. The other committee was directed to throw more light upon the causes of these deaths. Even now they were largely ignorant of the causes of this persistent maternal mortality. He had set the investigation on foot with the help of the general practitioners of the British Medical Association and of the local authorities with a view to getting a report on every case of maternal death right through the country. The committee began to function in the latter part of last year, and 311 deaths formed the subject of reports in 1928. This year already the Ministry had reports of 448 more cases. It is too soon to say what conclusions they would be able to draw from this evidence, but already the focusing upon these cases had begun to show indications from which they believed they saw flaws and weaknesses in the system. The arousing of public attention upon the lamentable results to the health and life of this nation which come from this persistent mortality meant that greater care was given already before and after birth. He said with some confidence that from the mere fact of this attention they would see a large reduction in this mortality.

Small-pox.

There had been a good deal of discussion on small-pox within the last few weeks, and embarrassing restrictions had been placed upon the entry of British nationals into another country. That had arisen partly owing to certain cases of virulent small-pox which came to this country in a ship. He did not think that this state of affairs would have arisen had it not been that the attention of other countries had been drawn to the mounting figures of cases of small-pox of a mild character which had been so remarkable a feature of the last few years. In 1927 there were upwards of 14,000 such cases. Last year there were not quite so many, and the fact of these cases being mild has tended to prevent anxiety. He felt that as long as a large part of the population were unvaccinated the public was running a risk which might seem small to-day, but which, if a really virulent type should spread, might cause a panic.

Cancer and Radium.

Unfortunately the number of cases of cancer was still on the increase in England and Wales, nor had the Ministry been able, in spite of research, to say they had got to the real cause of cancer or of the agencies which encouraged its development in the human body. What they could say was that, after many experiments and some mistakes, they had obtained a fairly practical working knowledge of a method of treatment which had in a great number of cases been singularly successful and had superseded older methods of surgery. He referred to treatment by radium in one form or another. The demands for the substance had become pressing and urgent. It was found in workable quantities in few spots in the world, and required most careful handling in its preparation. It was a very costly substance. A subcommittee appointed by the Committee of Civil and Industrial Research had informed the Government that 20 grams of radium, all that could be properly and efficiently used at this moment, could be obtained at a cost of £200,000. In the opinion of the subcommittee it was desirable that the Government should offer pound for pound for any sums raised for this purpose by the public, and the Government felt that they must at once accept that recommendation. As a result of the appeals made in the press a large share of the sum required had been forthcoming. This appeal had the sympathy of many people. It was a satisfaction to him at the end of this period of office to find that something had been done to bring relief in future to many sufferers from this most terrible and terrifying of diseases. He was confident that in a few days the necessary money would be secured. He hoped he had convinced members that the money spent on the health services of the Ministry of Health brought an ample return in the improved health and efficiency of the people.

Debate.

Mr. ARTHUR GREENWOOD, for the Labour Party, moved to reduce the estimate by £100, and contended that the country should now be building over 200,000 houses a year.

Mr. HOPKIN MORRIS said the report of the Wood Committee on mental defectives had been originally presented on January 19th as one report, not, as now appeared, two reports. Mr. Chamberlain referred it back to the committee and asked them to divide it. The committee reluctantly agreed. They regarded the section of the report which dealt with adults as part of the same problem as that relating to the children. Why should local authorities be debarred from a knowledge of this report? Dr. Tredgold, a member of the committee, was reported in the *Times* on April 26th as regretting that the Government departments concerned should have required the report to be divided, and that the part dealing with adults should not have been published. Mysterious influences were at work to delay or even prevent publication of the considered opinions of an independent committee on such a subject. Dr. Tredgold had further said he doubted whether the public authorities who were charged with the duty of providing for these defectives would tolerate such an autocratic procedure. Mr. Chamberlain had said there was a good deal of misapprehension about this report. Why did he not explain how it had not been published? The figures and investigations of Dr. Lewis had been published; why not the whole of the findings of the committee? The *British Medical Journal* was not a partisan paper. It could not be accused of political opposition to Mr. Chamberlain or of political bias. It had said: "The portion of the report which deals with adult defectives is still mysteriously withheld. Neither delay nor withholding is the fault of the joint committee themselves. . . . In the public interest it is necessary to press for, even insist upon, the early publication of the missing Part III."

Dr. VERNON DAVIES said Mr. Chamberlain's statement had been lucid and interesting, but, probably owing to lack of time, had not dealt fully with health services. Even after all that had been done in the last four years, an appalling amount of work remained to do in connexion with health services. Undeniably there was anxiety over the non-publication of the adult part of the report on mental deficiency. He hoped Mr. Chamberlain would give the matter his immediate attention. Mr. Chamberlain had mentioned the large number of lunatics in the country, and had accurately stressed the point that lunacy was a curable disease. It was important to bear in mind that a large number of people on the borderline could, by proper treatment in mental hospitals or in other suitable hospitals, be prevented from going over the line and brought back to normal. That was an urgent and vital work before the Ministry of Health, and its essential was the treatment of a class of mental patients without certification. Dr. Davies remarked upon the discredit popularly attached to persons suffering from mental illness, and said that until the Ministry of Health brought in legislation to deal with the report of the

Royal Commission on Lunacy, there would be this feeling in the country towards people who suffered from mental affliction.

Small-pox, Dr. Vernon Davies continued, was another important question. The home of Jenner, the country which first discovered the principle of vaccination, and which first dealt with small-pox, was held up to the ridicule and horror of the world. France, a neighbouring and friendly country, had in a moment of panic issued a drastic order directed against this country. Brazil was objecting to the admission of people from Great Britain unless they had been vaccinated. A publication of the International Labour Office or of the Health Commission had said that this was the worst vaccinated country of the world. The Rolleston Committee had suggested alterations in regard to vaccination, and Dr. Davies hoped Mr. Chamberlain would see the country had efficient administration to get rid of the curse of small-pox. Dr. Davies remarked that the House of Commons would probably have an opportunity of discussing, on the Supplementary Vote for Radium, the question of cancer and the Radium Fund. Though radium was a substance of enormous value in the treatment of certain forms of cancer, it was extremely dangerous and ought only to be handled by experts. Having obtained radium, they must ensure it was only used by medical men who were thoroughly expert in its use. He was not afraid that the country would not get a sufficiency of radium, but that for some time there would not be a sufficiency of experts in its use. The House appreciated the fact that Mr. Chamberlain had set up committees on maternal mortality, but Dr. Davies was convinced that the secret of maternal health was efficient midwives, properly trained, and above all that babies should be born in satisfactory surroundings. The Minister of Health had said he had made inquiries from medical men in the country on the causes of deaths in childbed, and that inquiry had already led to an improvement. That could only result from extra care by the doctor or nurse, or attendants, and from a little more cleanliness. If such extra care and attention were going to save lives, that alone would justify Mr. Chamberlain's work. Unfortunately Mr. Chamberlain had said little about tuberculosis, and the House had not the report for last year. Had there been improvement in the compulsory notification of phthisis? Was the dispensary system functioning? Was the Ministry co-operating with the medical men, with the sanatoriums, and with the hospitals? Would Mr. Chamberlain ensure that under the Local Government Act the tuberculosis service was worked as a complete unit? If it was necessary to have a full-time medical officer for health services, it was ten times more important to have a full-time tuberculosis officer. The essential thing in tuberculosis was early diagnosis, and that was for the expert. The Ministry could not expect the ordinary general medical practitioner, who had not the latest means at his disposal, such as *x* rays, to diagnose the early case. There had been increased co-operation between the general medical practitioner and the tuberculosis expert. It was no use getting the middle or the final cases; and they could not get the early cases unless a full-time tuberculosis officer was appointed. On venereal disease Mr. Chamberlain had said little. He had referred to the diminution in cases of ophthalmia neonatorum, but that was simply an example of the extra care now being taken. He did not mention how many of the 5,000 were blind, but with ordinary care and attention there should not be a single case of ophthalmia neonatorum. He hoped Mr. Chamberlain would exercise all the moral and administrative pressure he could in regard to this disease.

Dr. Davies remarked that during the last four and a half years the health of the country had improved, the social services had advanced, and Mr. Chamberlain, with Sir Kingsley Wood, had earned admiration and respect from the medical profession. If Mr. Chamberlain had become a member of that profession he would have risen to great heights. He concluded by criticizing an item of the vote. Under the heading "Medical staff (including Government lymph establishment)" there were forty medical officers. Of these, two were in receipt of pensions of £400 and £460 respectively per annum from Indian funds; one of a pension from Nigeria and Gold Coast funds to bring his total emoluments up to £1,305, and two of army retired pay of £365 and £510 per annum respectively. Were there no medical men in this country fit for these offices without taking retired officers from the Indian Medical Service? It was essential, particularly in the national health insurance service, that a man who had a chance of working up from general practitioner to a higher administrative office should not be pushed on one side and the job given to another man from another service. There was probably good reason for these appointments, but Dr. Davies said he would be glad to know what it was.

Miss LAWRENCE criticized Mr. Chamberlain's tightening up of Poor Law relief, alleging that the refusal of out-relief to single able-bodied young men drove them on to the roads and to casual wards, which had all the evils of the old mixed prisons.

Captain FRASER said there were about 48,000 blind persons in England and Wales, of whom 11,000 were under the age of 40. About 10,000 were unemployed, and 33,000 characterized as unemployable. The amount of blindness had decreased, but there had been an increase in the registered cases, partly through the Act passed in 1926 giving blind persons free wireless licences. In London alone 900 blind persons previously unregistered had been discovered through that Act. Last year 17,000 blind persons over the age of 50 received State pensions at a cost of about £450,000, and grants from the Ministry for the welfare and employment of the blind £126,000. In 1928 the local authorities must have spent about £225,000 on the welfare of the blind. Between 1924 and 1928 expenditure on the blind from public funds had gone up by about 68 per cent. This country had a more carefully worked out, systematic, and widespread method of helping the blind than any other in the world. The time had come to go further. The inquiry by the Minister's advisory committee into the condition of unemployable blind persons must be nearing completion. Whatever was done they should not extinguish private charity and voluntary effort. Turning to the question of cancer, he remarked that the country needed a central institution where sufficient cases could be gathered together to provide statistics on experiments and treatment—an institution comparable to those established in France, in Sweden, and in Berlin.

Mr. LANSBURY said no House of Commons had tackled the cause of health problems—the poverty which caused people to be sick, murdered the mothers at childbirth, and caused consumption. If Dr. Fremantle were to speak in that debate he would have to say that after the Ministry of Health and the local authorities had done all they could for phthisical cases, they sent them back to the same slums, again to fall victims to the disease. The reason consumption increased was poverty, imposed by social conditions.

Dr. DAVIES: Not always.

Mr. LANSBURY retorted that doctors, especially those having anything to do with the public health, knew the diseases with which they dealt were due in the main to bad housing, low wages, unemployment, casual labour, and all that went to produce poverty. He thanked God he was not a medical man or an expert, but he knew that most of the children attending schools for mental defectives came from homes which suffered from poverty—the same homes from which the phthisical cases came. Worry and the struggle for a living caused in pregnant woman the things which brought about mental deficiency in the child when it was born. Before the doctors started telling the multitude those whom they were going to pick out for sterilization, let them take care that the multitude did not sterilize the whole lot of doctors first.

Sir KINGSLEY WOOD said he would reply privately to the point raised by Dr. Davies about the appointment of medical officers under the Ministry. He would be able to satisfy him that the medical men whom he had cited had special knowledge of particular sides of the Ministry's work. One was a doctor from the Indian Medical Service with special knowledge of malaria and kindred diseases. The rest of Sir Kingsley's reply, except for a reference to the Ministry's work for the blind, was confined to a defence of the department's housing policy.

The debate was then interrupted for private business. Later Mr. Greenwood's amendment was rejected without a division, and the House agreed to the estimates for the Ministry of Health.

Estimates for Agriculture.

The House of Commons, on May 2nd, went into committee on estimates for the Ministry of Agriculture, including estimated grants for the eradication of tuberculosis in cattle. Introducing these estimates, Mr. GUINNESS said he had not had a previous opportunity for three years to explain the agricultural estimates in detail. He said milk production had been one of the encouraging sides of agriculture in these years of difficulty. The House knew of the result of recent experiments in regard to the health of school children who were fed on milk, and a good deal had been done to encourage the demand, but consumption remained far below what it was in foreign countries, and far below what it ought to be in this country. The Ministry believed the best way to encourage the consumption of milk was to reassure the public on the purity of the milk supplies. The industry had done much itself in that direction, and the Government a good deal by clean milk competitions. Distributors in London, Birmingham, and elsewhere were giving special payments for high quality and cleanliness of milk. The Diseases of Animals Act, passed in 1925, enabled the Government to give compensation for cows slaughtered on account of certain forms of tuberculosis. Between September, 1925, and the end of 1928, 700,000 cows were examined. These cows and heifers were not taken at random, but were cases in which the milk had been found to be impure or in which notification had been given by the local sanitary or veterinary authorities, or by the farmers themselves. Of these suspected cows, 8.4 per cent. were found to be affected with scheduled forms of tuberculosis, but only 1.3 per cent. were giving tuberculous milk or suffered from tuberculosis of the udder. Figures and alleged facts had been

published about this investigation which were misleading. He thought the figures were very satisfactory and gave ground for increased public confidence in the purity of the milk supplies. Mr. Guinness went on to say that the Ministry of Agriculture was also trying to reduce the farmers' losses through foot-and-mouth disease. There had been a steady reduction in the number of outbreaks. In 1924 there were 1,404; in 1928 138. In the first three months of 1929 there were 20 outbreaks, but none since March 24th, and when he spoke the country was clear. The disease continued to rage on the Continent. Last year Holland had 19,700 outbreaks and France 11,000. British organization for dealing with the problem was now nearly perfect. There was greater vigilance on the part of the farmers. The embargo imposed in 1926 on the import of Continental meat was immediately followed by a large drop in the number of outbreaks. Drastic arrangements had been negotiated in South America to see that no animal infected by foot-and-mouth disease or in the incubation period of that disease could reach the killing floor for export to Great Britain. A delegation, including two members of the House, had recently visited the Argentine and reported that the South American States were doing all they could to prevent the export of infected carcasses to this country. A fifth precaution enforced by the Ministry of Agriculture was the boiling of swill.

Mr. R. J. RUSSELL protested against the application to cream of the Order issued by the Minister of Health against preservatives in food. In one dairy there had as a result been a shrinkage of over £1,000 a month in the demand for cream. As a result of the Order the use and preparation of synthetic cream had grown up throughout the country. The dairying industry was not satisfied with what the Ministry of Agriculture was doing about tuberculosis, infective abortion, and Johne's disease. What was being done about the unhealthy cowsheds found throughout the country, whose condition was a menace not only to the cow but to the cowman?

Answering Mr. Russell's complaint about cream, Mr. GUINNESS said the matter must be left to the Minister of Health. Medical authorities said that small doses of boric acid were likely to produce a form of disease in some people, so the agriculturist must not weigh his own convenience against the public health. A man who treated his cream on modern lines was well able to carry on without boric acid, and the forbidding of that preservative would be as much for the benefit of the cream producer as it had been in the case of the milk producer. Personally, he deplored the production of reconstituted cream, of which the raw material was a waste product from specialized agricultural industries in other parts of the world. If the public chose this stuff instead of cream they could not be prevented. There had been many complaints that local authorities were unduly severe about cowsheds, but there had been no real grievance. Experience had shown that clean milk could be produced in very poor buildings. The men and their methods mattered much more than the cowsheds.

The House then agreed to the estimate.

The London Lock Hospital.

In the House of Commons, on April 30th, on the motion for the adjournment,

Mr. PETHICK-LAWRENCE called attention to the management of the London Lock Hospital. He said that the Minister of Health had admitted, in reply to questions, that the report of the committee of inquiry showed that changes in the management of the hospital were desirable. Mr. Chamberlain, however, had refused to publish the committee's report, and had stated that the board of the hospital was making considerable changes. In his (Mr. Pethick-Lawrence's) view reforms at the hospital could not be carried out except by a reconstituted board of management and a change in the personnel of the hospital staff. It was ten years since the action of the board was first called into question, and all that time the board had made no important changes. The promises of the board were not good enough.

Mr. CHAMBERLAIN said he wished to remind the House that this was a voluntary hospital. It was not an institution over which he had any authority by law, and he only came into the matter because, in consequence of publicity which had been given to the charges made against the board, the board requested him, as an impartial and independent person, to appoint a small committee to inquire into the charges. In asking for that inquiry the board made it a condition that it should be a private inquiry, and that the evidence should be treated as private. On that condition the committee was appointed and evidence was given. In no circumstances could the evidence given to the committee be published. Where a private inquiry was held it was certainly not the usual practice to publish a report. He had no personal knowledge of the cases which led to the charges which had been alluded to; his concern was that of a person who desired to see that the interests of the public in London were protected. This hospital, which was the only one of its kind in London, could, if properly conducted, perform a great service, and one which no other institution was capable of performing. He was not concerned with what took place before the inquiry, but only with what had occurred since. Some of the delay which had taken place was due to the fact that the chairman of the board had been in bad health, and had not been able to give continuous attention to the matter. A board faced with recommendations which involved the alteration of the management and of the whole system on which the hospital was run could hardly formulate proposals to carry out those recommendations in one or two meetings. It was reasonable that they should take adequate time to examine thoroughly all possible alternatives. If he felt that the board was not facing up to the situation and was disposed to go on as it had before, and to take no serious account of the important suggestions which had been made in the report, he would not hesitate to publish the report as a means of bringing pressure upon them through public opinion. But he had felt all along that that was a course which he ought not to take unless he felt convinced that it was really necessary to bring about the results desired. The report, after all, did not charge the members of the board with any moral obliquity or any dishonesty or any financial irregularity, but it certainly did indicate that the administration of the board, in parts, might well be improved. The publication of the report would draw public attention to the hospital in a way which could hardly fail to have a serious effect upon its working. The first result must inevitably be a reduction in the public contributions to the hospital, which had already suffered to some extent. The public discussion of the report would present difficulties to the board in obtaining the services of the staff—not merely of the medical staff, but particularly of the nursing staff. He had good reason to suppose that the reconstitution of the board formed a part of the proposals which he expected to have in his possession before long. If the report was published also it would be difficult to secure the men and women to form the reconstituted board, whose presence might give confidence to the public. He had in contemplation some further steps which he did not feel at liberty to discuss in public, but which might assist towards a satisfactory solution. Nothing had occurred up to the present to justify him in publishing the report. He still reserved to himself the right to publish the report if he was not satisfied that the administration of the hospital was going to be reformed in the way he thought it should be. He felt confident that the board desired to reform itself and its administration, and he was confident that it would succeed.

Bills.

On May 6th the Mount Vernon Hospital Bill was read the third time by the House of Commons and passed, with amendments.

The House of Lords, on May 7th, went into committee on the Reconstituted Cream Bill. Lord CLINTON moved an amendment to substitute the word "artificial" before the word "cream" instead of the word "reconstituted." This amendment was carried, and the title of the bill was accordingly altered to "The Artificial Cream Bill." The bill passed through committee.

In the House of Commons, on May 7th, the Pharmacy Bill passed through all its stages and was read the third time and passed.

The Infant Life Preservation Bill, which had already passed the Lords and the title of which had been slightly altered by a standing committee of the House of Commons, was read a third time in the Commons on May 2nd, without discussion.

The Hospitals (Relief from Rating) Bill, introduced by Colonel Gretton, is officially described as dropped.

Small-pox.—Lord EUSTACE PERCY said, on May 1st, that no regulation had been issued by the Board of Education giving a local medical officer of health the right to exclude healthy unvaccinated children from school. In an answer to Dr. Fremantle, on May 2nd, Mr. CHAMBERLAIN said that of the seven deaths from small-pox among the passengers and crew of the *Tuscania*, three were of persons who had not been vaccinated and four of persons vaccinated only in infancy. Two of the former were vaccinated and three of the latter revaccinated during the incubation period. The ages of the persons who had been vaccinated in infancy ranged from 28 to 37 years. Answering Mr. Malone on the same date, Mr. Chamberlain said he was advised that in ordinary circumstances it was unnecessary for small-pox contacts to refrain from following their occupations if they were subject to regular medical supervision during the incubation period. It was not the practice of the Ministry of Health to sanction the payment of compensation except in cases where it was necessary for the protection of public health that the contacts should abstain from work. He knew that certain boroughs where his sanction was not required had made payments to contact cases. Sir JOHN GILMOUR said, on May 2nd, that the medical officer of health for Glasgow had issued certificates to all members of the crew of the *Tuscania* within his area, stating that they had been under observation for the quarantine period of the disease, and that they were now free from infection so far as that source was concerned.

Ministry of Pensions.—Major TRYON stated, on May 2nd, that institutions in charge of the Ministry of Pensions had on March 31st, 1929, 11,785 in-patients, including 6,000 mental patients. For out-patient treatment 2,688 cases were in attendance. These figures were lower than the corresponding figures on January 1st, 1928, by 1,360 in-patients and 2,142 out-patients.

Notes in Brief.

In the metropolitan police district during the first quarter of 1929 3,651 motorists were prosecuted for causing undue noise.

During 1928 the deaths of 667 males and 421 females in England and Wales were classified as suicides from gaseous poisoning.

In the Ministry of Health 3,592 persons are employed on the administration of the National Health Insurance and Contributory Pensions Acts.

In 1928 71,200 lb. of medical opium were exported from India to the United Kingdom.

Obituary.

HERBERT JONES, L.R.C.S.I., D.P.H.,

Late Medical Officer of Health for the Herefordshire Combined Districts.

We have to announce with great regret the death, on May 1st, at Welwyn Heath, of Dr. Herbert Jones, who was for many years a leading figure in the public health service and a recognized authority on medical administration under the Local Government Acts.

Herbert Jones was born in 1858 and received his medical education at the Middlesex Hospital, whence he qualified as L.S.A. in 1886, subsequently obtaining the diplomas of L.R.C.S.I., L.M., and L.A.H.Dub., and the D.P.H.Camb. in 1892. After some years in general practice at Shipley he was appointed in 1893 medical officer of health for the borough of Crewe, and from 1898 to 1900 held the corresponding post under the Rhondda Urban District Council. He then went to Hereford as medical officer of health and school medical officer for the Herefordshire combined districts and Bromyard urban district. During his twenty-five years' residence in Hereford Herbert Jones rendered great services to the local profession and endeared himself to all his colleagues.

Photo by J. Russell and Sons, London.

As medical officer of health his relations with the practitioners in his district were always most cordial, and he was ever ready to assist them in any case of anxiety or doubt. He was largely instrumental also in resuscitating the Herefordshire Medical Society, and acted as its honorary secretary for many years.

Both locally and at headquarters the British Medical Association owed much to Herbert Jones. From 1903 to 1908, and again in 1922 to 1924, he was honorary secretary of the Hereford Division, and held office as chairman in 1913. He had also been honorary secretary and president of the Worcester and Hereford Branch. He served on the central Council of the Association for two terms, and was a valued member of the Public Health and Insurance Acts Committees: he served as chairman of the Superannuation Subcommittee, and did much good work on the Joint Committee on Minimum Salaries for Public Appointments. When the Association held its Annual Meeting in London in 1910 he was vice-president of the Section of State Medicine, and in 1924 at Bradford he presided over the Section of Public Medicine and Industrial Diseases. He was long an active member also of the Society of Medical Officers of Health, on whose council he served for more than twenty-five years; he was elected president in 1914 and for a short time acted as editor of *Public Health*. Both in the Association and in the society he was the chief mover in the fight for security of tenure and superannuation for medical men holding public appointments. Herbert Jones's disinterested work in this and many other professional affairs was of the greatest help, not only to his own district, but to the profession throughout the country. Few men were more intimately acquainted with the intricacies of public health law and administration, and his knowledge was always at the disposal of inquirers. For several years after the introduction of medical benefit under the Insurance Act he was a member of the Hereford Local Medical and Panel Committee, where his sane views and wide knowledge were highly appreciated. Thus it was only fitting that when ill health compelled him to retire from active work three years ago a testimonial was raised on the initiative of the Herefordshire Medical Society, in acknowledgement of his great services to his colleagues in that county and to the profession at large.

Soon after the outbreak of war in August, 1914, Herbert Jones was given command of the Territorial Mounted Field Ambulance attached to the Welsh Territorial Division, with the rank of lieutenant-colonel R.A.M.C.(T.), and later in the war he served in Ireland until his health broke down. His many other activities included the honorary secretaryship of the Herefordshire Branch of the National Association for the Prevention of Consumption, and long service as examiner for the Royal Sanitary Institute and the St. John Ambulance Association. He was the author of small books on school hygiene and on the elements of sanitary science, and wrote a number of papers on such subjects as back-to-back houses, isolation hospitals, and the reform of the public health service. For many years he gave ungrudging help in public health matters to the *British Medical Journal*; he was always willing to answer questions from correspondents, and regularly supplied notes on items of general interest in the reports of his colleagues in the health service.

At the funeral service on May 3rd the Council of the British Medical Association was represented by Dr. C. Courtenay Lord, Assistant Medical Secretary.

Dr. E. H. SNELL, medical officer of health for Coventry, writes:

It may be difficult to appraise at their full value the services which Herbert Jones rendered to the medical profession. For some years, through ill health, he has had to withdraw himself from the active arena of medical politics; and there have been few whose withdrawal has been more missed by those who appreciated the valuable services he had rendered. Herbert Jones was a medical man first and a medical officer of health afterwards, and he appreciated to the full that both branches of the profession could render their fullest services to the community by working in harmony. That he was successful in securing the confidence of both is borne out by the positions of honour accorded to him in the British Medical Association and in the Society of Medical Officers of Health. For many years, before what may perhaps be called the "entente cordiale" between these two bodies, he was a member of the Public Health Committee of the British Medical Association, and there he devoted much energy towards forwarding two objects that he had made peculiarly his own—namely, security of tenure and superannuation for medical officers of health. He was successful in inducing the Association to promote bills in Parliament towards these ends; these bills were not successful, but they broke the ground, and he lived to see both of these objects attained to a considerable extent and with a fair promise of complete attainment in the near future, though unfortunately he himself derived no benefit.

For his colleagues Herbert Jones was an "intelligence officer" and was accepted as the historian of his generation. This resulted naturally from his methodical habits. He docketed and he indexed everything that might be of future interest. And he came to be regarded as the natural reservoir for information on forgotten minutiae. Holding, as he did in his latter active years, a post in a combined sanitary district, he met the difficulties inherent in such a post with a due regard to the dignity and the rights of the medical man. In August, 1908, Herbert Jones was appointed medical officer of health and school medical officer to the county of Hereford; it then emerged that a condition of the appointment was that all qualified medical assistance required should be provided not, as is invariably the case, by the council, but by the medical officer of health. After some months of negotiation Herbert Jones withdrew from the position.

Having had the privilege of an intimate personal friendship with Herbert Jones for over thirty years, I am able to say that I highly regarded that friendship. He was a true and trusty friend; his ideals made him that; he was not in search of limelight; he was out to serve his day and generation. And few have left such a record of unselfish devotion to the causes of right which he upheld.

HENRY RUTHERFURD, M.B., C.M., F.R.F.P.S.GLAS.,

Consulting Surgeon to the Glasgow Royal Infirmary.

WE regret to record the death of Mr. Henry Rutherfurd, which took place, in his sixty-ninth year, at his residence in Glasgow, on April 14th, after a short illness.

Henry Rutherfurd was educated at the old High School of Glasgow and in the University. He graduated M.A. in 1881, and M.B., C.M., with distinction, in 1884. He held house appointments in the Western Infirmary under the late Sir William Gairdner and the late Sir Hector Cameron, and it is probable that the influence of the latter played a large part in moulding his future surgical career. He maintained an intimate friendship with Sir Hector Cameron to the end of his chief's life. After visiting the Continental schools of Jena and Vienna he returned to Glasgow to join the staff of the late Professor Coats as demonstrator in pathology. He held various junior surgical posts, and then became extra surgeon to the Royal Hospital for Sick Children. In 1906 he was appointed surgeon to the Royal Infirmary of Glasgow, holding that position till 1921, when he became consulting surgeon; shortly afterwards he joined the board of managers as one of the three members appointed by the Royal Faculty of Physicians and Surgeons. He was also surgeon to the Royal Cancer Hospital, Glasgow, where he early recognized the potentialities of radium as a curative agent, and encouraged the younger members of the staff to carry out original research. He became a Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow in 1890, and filled various offices, being a councillor, an examiner, and a representative on the Conjoint Board.

Rutherfurd was very happy in his work in the Royal Infirmary, devoting far more time than was commonly allotted to such public work. He had an extraordinarily accurate and full knowledge of the science of surgery, and was renowned for his interest in surgical pathology. His contributions to surgical literature were comparatively few. In his earlier surgical career, in 1898, he was one of the editors of three volumes of *Glasgow Hospital Reports*, to which he contributed two excellent monographs on the "Management of rupture of the urethra" and "Tumours in the sacro-coccygeal region." Other papers were "Nephrectomy for transverse rupture," "Downward dislocation of the patella," and "Irreducible intussusception in the infant."

Rutherfurd was a man of interesting personality, though not a fluent speaker; indeed, his speech was well known for its staccato jerky style; but it was remarked that when he did speak—as for example, in meetings of the Royal Faculty—every word could have been taken down verbatim and not a single phrase or word would have required to be corrected. He was a man of keen wit, with a kindly but not cynical eye for his fellow men. He volunteered for foreign service during the war at the age of 56, and was attached to a hospital in Salonika, with Serbian soldiers as patients. He had the highest sense of honour, with no thought of personal advancement behind any of his actions. To this he added a gift for friendship, and there are many of his time in Glasgow who feel sorely grieved by the loss of Harry Rutherfurd.

A colleague (G. T. M.) writes:

To those of us who were privileged to know and work with Mr. Henry Rutherfurd his death comes as a personal loss, and there must be many of his former students and house-surgeons who will recall their time with him in the Royal Infirmary. A man of wide culture, full of historical and classical knowledge, his conversation during a ward visit might begin with the ancient Persian wars and end on the correct interpretation of a sonnet of Keats. It was, perhaps, this wide knowledge that was responsible for the clarity of thought and the almost whimsical outlook on people and things which were typical of him. Well versed in the surgical literature of the day, he had a humorous eye for the gusty theories which enliven or entwine the surgical wayfarer, and his advice was always to trust clinical experience before anything. His ward journals must have been models of what records should be, and his meticulous care in dealing with patients was, at times, the despair of a house-surgeon with a golf appointment. Beneath his reserve one found a simple kindly gentleman of the old school, with a wide knowledge of men and things, an honesty of thought and directness of speech which expressed itself sometimes forcibly but always fairly, and a very high sense of duty.

WILLIAM McCONNELL WANKLYN, M.R.C.S., L.R.C.P., D.P.H.,

Consultant in Diagnosis of Small-pox, London, Middlesex, and Essex County Councils.

WE deeply regret to record the death, in his sixty-third year, of Dr. W. McConnell Wanklyn, which occurred suddenly at the County Hall, London, on April 30th.

William McConnell Wanklyn received his early education at St. Paul's College, Stony Stratford, later proceeding to Cambridge, where he graduated in arts in 1888. He pursued his medical studies at the Middlesex Hospital, Edinburgh, and Vienna, qualifying M.R.C.S., L.R.C.P. in 1893, and in 1904 obtaining the Diploma of Public Health of the Royal College of Surgeons, London.

We are indebted to a colleague (C. J. T.) for the following appreciation and account of his career:

The loss of Wanklyn at any time during the past twenty-five years would have been a calamity to the community. It is doubly so at this time when the metropolitan area is at last invaded by small-pox of the type which has been so unpleasantly prevalent during the past five years in some parts of provincial England. It is not too much to say that it was largely due to Wanklyn that London enjoyed complete freedom from spread of the disease for a whole quarter of a century—from 1902 to 1927. He was the first line of defence, and his services as a super-diagnostician were sought not only in the metropolitan area itself, but by the authorities of Greater London and by those still further afield.

In diagnosis Wanklyn was superb. How many times have his colleagues called him in to decide the character of a rash which in appearance puzzled them hopelessly, and how many times have they been abashed in his presence by the simplicity the case presented immediately he had summed up the salient features! His brilliance in diagnosis had its foundation in his orderliness of mind: the facts of the case were marshalled in their proper order, the weighty ones first, the secondary ones—by undue attention to which mistakes and doubts invariably arise—relegated to their proper position; and under his masterly guidance the case seemed to alter its character before one's eyes until it almost seemed that the rash arranged itself to spell the diagnosis and shouted its name aloud. His rare gifts of mind were exhibited almost equally in tracing the contacts of a case. His method was strongly reminiscent of the method of reconstruction of the crime followed by the French detective force. His mind, indeed, resembled in its pure logical quality a French rather than an English type.

His first experience in medical practice was obtained in various institutions of the Metropolitan Asylums Board, amongst which he assisted at the Hospital Ship, the Gore Farm, and the Brook Hospital, and thus gained a wide practical acquaintance with various types of infectious diseases. At the Hospital Ship he came under the tuition and influence of Ricketts, and throughout his official life Wanklyn never wearied of bearing testimony to the remarkable talents of his teacher, talents which he himself assimilated and brought to further fruition.

The outbreak of small-pox which occurred at the beginning of this century found Wanklyn in the position of medical superintendent of the River Ambulance Service (1901–3) and referee in diagnosis of small-pox to the Metropolitan Asylums Board. In September, 1903, he entered the institutional service of the London County Council and was stationed at the Heath Asylum, Bexley. His service there, however, was interrupted for a period of six months from the following April, when Sir Shirley Murphy brought him to St. Martin's Place to carry out special duties in reference to small-pox. It was during this period that his true mission in life dawned upon Wanklyn, and during this year (1904) he prepared himself for entrance to the public health service proper by taking

his Diploma in Public Health. After a brief return to institutional life in November, 1904, he was finally appointed assistant medical officer in the Public Health Department of the London County Council on February 28th, 1905, from which date he carried on, against a menace ever present to an imperfectly vaccinated community, a magnificent struggle which ended only with his death.

On the outbreak of war Wanklyn immediately took up military duties, and from September, 1914, to January, 1919, served with the rank of captain in the R.A.M.C.(T.F.) during which period he served in France for one year and eight months.

Wanklyn was naturally intensely concerned with propaganda for vaccination, to which he devoted much of his official life, and to this propaganda he turned again on his return to civil life. In 1921 he delivered the Emeritus Address No. 3 upon "The abolition of small-pox in the British Isles as the next step in the medical advancement of England's industrial health and efficiency," while a little pamphlet he wrote entitled *Facts that you ought to know about Small-pox and Vaccination* has run into several editions. His literary *chef d'œuvre*, however, is the manual *The Accurate Diagnosis of Small-pox*, published in 1923. This book enshrines those qualities of lucid and logical exposition which made Wanklyn in his own sphere truly great. No practitioner at this time when small-pox threatens to become prevalent throughout Britain can afford to be without a copy of this, the clearest guide to the diagnosis of small-pox that exists.

The recent extension to London of the mild type of disease, together with the need of strenuous effort to prevent the complication of the situation by invasion by the more deadly type from the East, no doubt put a great strain upon Wanklyn, but no one anticipated his sudden and tragic death in harness.

Dr. R. KING BROWN, late medical officer of health for Bermondsey, writes:

I had the good fortune to make Dr. Wanklyn's acquaintance during the small-pox epidemic of 1901–2, when he had charge of the South Wharf of the Metropolitan Asylums Board, which is situated in the borough of Bermondsey, and when I was medical officer of health for that borough. The friendship formed then lasted up to the day of his death, which came as a great shock to me as well as to his many friends. His knowledge of the early diagnosis of small-pox was unrivalled, and I learned lessons in the disease from him which proved invaluable to me during the (almost) twenty-eight years of my tenure of office in Bermondsey. He was a perfect type of a cultured English gentleman, and worked most unselfishly for the good of his fellow countrymen in season and out of season. He was indeed most enthusiastic and thorough in whatever subject he took up, and will be sorely missed by his numerous friends. Enemies he had none, and I cannot even imagine him having had any. His life was not in vain, for his works will survive, and be an incentive to many of the younger generation.

We regret to announce the death of Dr. WILLIAM KINNEAR, on March 30th, at his residence in Dundee, after a short illness following several years of impaired health. He was born in Dundee in 1863, and received his medical education at Edinburgh, where he graduated M.B., C.M. in 1888, and proceeded M.D. in 1901. Shortly afterwards he returned to Dundee, and soon built up an extensive practice, winning general esteem and affection. He had been an active member of the Dundee Branch of the British Medical Association, and a former vice-president; he had also been president of the Dundee Medical Club and of the Forfar Medical Association. He was medical officer to the Bearer Company, 3rd B.B.R.H. (Dundee Highlanders). At the inception of the Territorial Force he was appointed to raise the 3rd Highland Field Ambulance; he later became A.D.M.S. to the 51st Highland Division, and held the rank of colonel, and was appointed honorary physician to the King in 1913. When the 51st Division went to France he was retained to organize the medical services of the 64th Division until 1917, when he resigned owing to ill health. He held the V.D. for long service, and was an Associate of the Order of St. John of Jerusalem. He is survived by his widow, a daughter, and six sons, of whom two are in practice in Dundee.

The following well-known foreign medical men have recently died: Dr. EMANUEL FORMANEK, professor of chemistry and toxicology at Prague, aged 59; Professor AUGUST HOFFMANN, director of the medical clinic of Düsseldorf Academy, aged 67; Colonel JOHN MONRO BANISTER of Omaha, emeritus professor of tropical medicine at Nebraska University, aged 74; Dr. JAMES MOORES BALL, formerly editor of the *Annals of Ophthalmology*, aged 60; and Dr. THOMAS SAGE, formerly professor of pharmacology and therapeutics of the Detroit College of Medicine and Surgery, aged 59.

ROBERT EDWARD SARE, manager of the *Lancet*, died last week in his 51st year, after a long illness. Mr. Sare first joined the staff of Messrs. Hodder and Stoughton in 1904; three years later he became manager of the Oxford Medical Publications, and in 1920 was appointed manager of the *Lancet*, which Hodder and Stoughton had that year acquired from Wakley and Co., Ltd. For twenty-two years his occupation brought him into close relation with many members of the medical profession, and it was his understanding of their point of view, and perhaps the fact that originally he had intended to study medicine, that helped him to carry out the duties of his post with such success. He was a very hard worker, and earned the respect of all his colleagues on both the managerial and literary staffs. We would wish to express our sympathy to the *Lancet* in its loss.

Universities and Colleges.

UNIVERSITY OF LEEDS.

THE degree of M.D. has been awarded to G. R. Baxter.

UNIVERSITY OF DUBLIN.

TRINITY COLLEGE.

AT the first summer commencements held on May 2nd the following degrees in the Faculty of Medicine were conferred:

M.D.—J. R. Craig, W. P. E. M'Intyre.
M.B., B.CH., B.A.O.—H. Dundon, C. de L. Shortt, P. A. Thornton.

NATIONAL UNIVERSITY OF IRELAND.

AT a meeting of the Senate on May 3rd Dr. D. J. Coffey was reappointed representative of the University on the General Medical Council for a further term of three years.

The following candidates have been approved at the examination indicated:

D.P.H.—*Part I*: *M. Hanly, *P. Fleming, M. A. Cooney, J. J. L. Cox, R. Dalton, T. Feeney, E. A. Grant, T. J. Kirby, Mary K. McGloughlin, H. Macken, A. B. O'Malley, M. Peppard, F. B Waldron, E. White. *Part II*: *T. F. Higgins, *J. V. McLoughlin.

* With second-class honours.

The diplomas were conferred upon Dr. T. F. Higgins and Dr. J. V. McLoughlin on the following day.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

LICENCES to practise have been conferred upon the following 43 candidates, who have passed the final examination of the Conjoint Board and have complied with the by-laws of the College:

Dorothy G. Angus, Audrey Z. Baker, W. V. Bowman, T. D. T. Brocklehurst, H. H. Brown, G. H. Buck, Mabel J. Cooke, J. R. Crumbie, F. A. T. Edwards, T. C. R. George, B. H. Gibson, F. N. Goggs, S. E. F. Gooding, M. Gordon, E. Hacker, E. J. Hamp, Hariharan, W. Heath, H. L. Hoffman, C. E. Holden, R. G. S. Howe, H. P. Hutchinson, G. Lal, R. A. Leader, F. M. Mallinson, F. W. Marshall, R. S. Marya, Jocelyn A. M. Moore, W. R. C. Morris, C. T. E. Parsons, R. S. B. Pearson, A. P. Petigura, Edith M. Redding, C. J. Sanderson, W. H. H. Serasinghe, U. P. Sinha, A. El M. Soliman, Mary S. Stuart, C. R. Todd, R. L. Whittaker, A. S. Wigfield, B. Wright, R. H. Young.

LONDON INTER-COLLEGIATE SCHOLARSHIPS BOARD.

THE London Inter-collegiate Scholarships Board announces that an examination for six medical scholarships and exhibitions, and one dental scholarship, of an aggregate total value of £538, will commence on June 25th. They are tenable at University College and University College Hospital Medical School, the London (Royal Free Hospital) School of Medicine for Women, and the London Hospital Medical College. Full particulars and entry form may be obtained from the secretary of the Board, Mr. S. C. Ranner, M.A., the Medical School, King's College Hospital, Denmark Hill, S.E.5.

Medical News.

THE Glasgow University Club, London, will dine at the Trocadero Restaurant, Piccadilly, on Friday, May 31st, at 7.30 p.m., when the chair will be taken by Emeritus Professor F. O. Bower, D.Sc., F.R.S. Any Glasgow University men who, though not members of the club, desire to attend are requested to communicate with the honorary secretaries, 62, Harley House, N.W.1.

THE annual medical missionary breakfast of the Medical Prayer Union will be held on Wednesday, May 15th, at the Refectory, University College, Gower Street, W.C., at 8 a.m., under the presidency of Dame Mary Scharlieb; an address will be given by Dr. L. E. Sharp of Ruanda, Uganda. Intimation of intention to be present will be welcomed by the honorary secretary, Dr. Tom Jays, Livingstone College, Leyton, E.10.

THE second meeting of the Internationale Gesellschaft für Sexualforschung will be held in the House of the British Medical Association, Tavistock Square, London, from August 3rd to 9th, 1930. It may be assumed that, as was the case in Berlin, the papers presented for discussion will fall into the following groups: biology; physiology, pathology and therapeutics; psychology, pedagogy, ethics, æsthetics, religion; demography, statistics, social and racial hygiene; sociology, ethnology, and folklore. All the arrangements are in the hands of Professor F. A. E. Crew, the University, West Mains Road, Edinburgh, to whom those who are interested are requested to write.

THERE will be a clinical meeting of the London Clinical Society at the London Temperance Hospital on Thursday, May 16th, at 8.30 p.m. All medical practitioners are welcome.

THE next meeting of the Biochemical Society will be held in the Department of Biochemistry, University Museum, Oxford, to-day (Saturday, May 11th), at 3 p.m.

THE Fellowship of Medicine announces that the third and fourth lectures of the M.R.C.P. evening course will be given at the Medical Society's House, 11, Chandos Street, Cavendish Square, at 8.30 p.m.; on May 14th Dr. A. Knyvett Gordon will discuss the clinical significance of the blood film, and on May 17th Dr. Bernard Myers will deal with purpura. A clinical demonstration will be given by Dr. J. R. B. Hern on May 15th, at 4.30 p.m., at the City of London Hospital for Diseases of the Heart and Lungs, and another clinical demonstration will be given by Mr. Cole Marshall on May 17th, at 2.30 p.m., at the Western Ophthalmic Hospital, Adelphi Rooms, 264, Edgware Road, W.2. These demonstrations are free to medical practitioners. A course of four lecture-demonstrations on ante-natal treatment will be given by Professor Dame Louise McIlroy on Fridays, at 5 p.m., at the Royal Free Hospital, starting on May 17th. Tickets can still be taken for the courses in progress at St. John's Hospital and at the Lock Hospital. Courses in June include ophthalmology at the Royal Westminster Ophthalmic Hospital; gynaecology at the Chelsea Hospital: chest diseases at the Victoria Park Hospital; proctology at St. Mark's Hospital; diseases of children at the Children's Clinic; and medicine, surgery, and the specialties at the Prince of Wales's Hospital. More detailed information, syllabuses, and tickets can be obtained from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

DR. DRUMMOND SHIELS, M.P., has been made a member of the committee appointed by the Secretary of State for the Colonies to consider the existing system of appointment in the Colonial Office and in the Public Service of the Dependencies not possessing responsible government.

COLONEL R. J. BLACKHAM, C.B., C.M.G., C.I.E., D.S.O., M.D., who is a member of the City Corporation and clerk to the Worshipful Company of Glaziers, was recently invested as Grand Sword Bearer of the Grand Lodge of Freemasons of England.

DR. ARTHUR R. WELLINGTON, Director of Medical and Sanitary Services, has been appointed an official member of the Legislative Council of the Colony of Hong-Kong.

IN an article published in the *Medizinische Klinik* of April 5th, B. Möllers states that an increase in the general mortality and the influenzal mortality has been reported in the Rhine district and in the greater part of England. In the English large towns with a population of about 20 million there were 2,183 deaths in the week ending March 2nd, or more than twice the number of deaths during the influenza epidemic of 1927. Although the mortality on the Continent was nowhere so serious as in England, the mortality rate in the Rhenish towns is also high at present (Cologne 32, and Elberfeld-Barmen 36 per 1,000), whereas in North Germany and the Scandinavian towns the epidemic was subsiding. The epidemic appeared to be spreading in countries on the Baltic, Czechoslovakia, and Hungary. Holland seemed to be the only country where the epidemic had caused considerable interference with public business.

IN addition to the lists of medical practitioners serving as members of local authorities or their subsidiary public bodies in Great Britain, published in our issues of December 8th (p. 1057), and December 29th, 1928 (p. 1190), and February 16th (p. 314), April 13th (p. 702), and April 27th, 1929 (p. 795), we are informed that Dr. H. D. Brice (Dukinfield) has been a member of the Dukinfield Borough Council for some years and is chairman of the Housing Committee; Dr. Brice is also a Justice of the Peace for the county of Chester. We have also received intimation that Dr. Morgan is a member of the Paddington Borough Council; Dr. C. Fuller is a member of the Marylebone Borough Council, of the Board of Guardians, and of the Metropolitan Asylums Board; and Dr. Burnhill is a member of the Hammersmith Borough Council. Professor Eyre, Mr. H. L. Eason, and Dr. Dreaper are members of the Metropolitan Asylums Board, the last-named being also a member of the Kensington Guardians of the Central Unemployed Body.

THE late Mr. Illtyd Williams of Bournemouth and formerly of Normanby, Yorks, has by his will bequeathed £20,000 to the Imperial Cancer Research Fund, and in the event of an established cure for cancer being found any balance then remaining is to be applied by the Royal College of Surgeons and the Royal College of Physicians for such further investigation into the diseases of man as they may from time to time determine.

IN connexion with the thirteenth International Congress of Ophthalmology at Amsterdam and The Hague, from September 5th to the 13th, committees have been appointed to prepare reports on the following subjects: the examination of visual acuity; perimetry; notation of the cylinder-axis; examination of the light sense; standardization of the visual examination of railwaymen, motor drivers, seamen, and airmen; and uniformity in the programme of ophthalmological studies. The fee for membership of the congress is twenty-five Dutch florins. Members wishing to contribute a paper must give notice not later than June 1st to the secretary of the Editorial Committee of the Congress, Wilhelminagasthuis, Amsterdam, from whom further information may be obtained. A previous reference to this congress appeared in our issue of March 9th (p. 485).

WE have received the first issue of *Röntgenpraxis*, which is to appear twice a month as a supplement to *Fortschritte auf dem Gebiete der Röntgenstrahlen*, the organ of the German Roentgen Society, under the editorship of Professors R. Grashey of Cologne, H. Holfelder of Frankfort, and H. Holthusen of Hamburg. As its subtitle indicates, the journal deals with diagnosis and treatment by *x* rays, radium, and light.

MESSRS. BURROUGHS WELLCOME AND CO.'S West End exhibition rooms have been transferred from 54, Wigmore Street, to more commodious premises at 10, Henrietta Street, Cavendish Square, W.1. Members of the medical and allied professions are invited to inspect the exhibits, which are on view daily from 9 a.m. to 6 p.m.; Saturdays, 9 a.m. to 1 p.m.

WE have received the fifth volume of the publications of the Obstetrical and Gynaecological Clinic of Copenhagen University, edited by Professor S. A. Gammeltoft. The volume consists of 14 papers, most of which have been published elsewhere, seven being in Danish, six in English, and one in German. An appendix contains statistics of the clinic for 1926.

THE sum of 400,000 florins (£34,000) has been placed at the disposal of the University of Utrecht by the trustees of the Rockefeller Foundation for the establishment of a new institute of physiology.

IT has been arranged to hold the second national congress of equatorial medicine at Guayaquil in 1930, under the presidency of Dr. B. Gimez, professor of clinical medicine; the sixth international congress for industrial medicine at Zürich or Geneva in 1931; and the international congress of oto-laryngology in Madrid in 1932.

WE are informed that, as a result of a recent meeting, a body has been constituted under the title of the "Ultra-Violet and Allied Trades Association," consisting of a number of the leading firms engaged in the design, manufacture, and marketing of ultra-violet, physio-therapeutical, and other electro-medical apparatus in this country. The objects of the association are: to promote co-operation between manufacturers with a view to making improvements in apparatus; to provide a medium through which the manufacturers may be taken into consultation by the medical profession on matters of mutual interest; and to form a clearing-house for information on all points affecting the technical and constructional aspects of electrotherapy. The offices of the association are at Kern House, 36, Kingsway, W.C.2.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:
EDITOR of the *British Medical Journal, Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS.

PLATELETS IN CIRCULATING BLOOD.

DR. R. CRAIK (Ealing) writes: In your issue of November 17th, 1928 (p. 913) Dr. Leonard Hill reported an observation of the capillary circulation at the edge of the liver in mice. Dr. J. McQueen confirmed the observation. I should be greatly obliged if either of these observers would inform me whether blood platelets were seen in the circulating blood. It is easy to detect platelets in a blood film with 1/3 in. objective.

BULBAR PARALYSIS.

"WM. B." writes: Can any reader suggest treatment for progressive bulbar paralysis of recent origin?

INJECTION OF VARICOSE VEINS AFTER PREVIOUS THROMBOSIS.

"MEDICO" asks for advice as to the length of time after a previous thrombosis which should elapse before varicose veins in the same leg can be treated by the quinine-urethane method, if, indeed, it is ever safe to do so. He has a patient who had thrombosis of the leg a year ago after an operation; also another patient with superficial thrombosis (localized) of recent development.

PAINFUL HEEL.

"GIZA" writes: A patient of mine complains of "painful heel," the pain being referred to the inner and lower aspect of the right heel. *X*-ray examination has revealed no abnormality of the os calcis, and no foreign body was detected. The pain persists even when the patient is resting in bed, and on getting out of bed in the morning it becomes acute on putting the heel to the ground. No physical signs are present in the heel, nothing can be felt in the fatty pad, and no swelling can be detected. I should be very grateful for advice as to treatment, as I am frankly puzzled. No symptoms of gout are present; the patient's age is 49, and there are no rheumatic tendencies.

AXILLARY HYPERIDROSIS.

DR. J. CURTIS WEBB (Cheltenham) writes: If "D. G." (April 27th, p. 796) will give his patient two or three full pastille doses of *x* rays with medium heavy filter (about 2 mm. Al), I think he will cure this distressing complaint. *X* rays have a specially effective action on glandular tissue, and the aim of the treatment is to destroy the sweat glands in this region.

INCOME TAX.

Car Renewals and Depreciation.

"G. S. S." bought a four-seater car in 1924 for £210 and sold it in 1927 for £50, when he bought a two-seater car for £170, being allowed as an expense £160–£50=£110. In March of this year he bought a four-seater car (apparently of a better grade than the first one) for £430, receiving £80 for the second of the three cars. What can he claim (1) as an expense, and (2) by way of depreciation of the new car.

*** The lower capital value of the car equipment of the practice effected in 1927 was merely temporary, and in our opinion "G. S. S." is now entitled to claim by way of renewal cost—that is, as an expense of the year ending March 31st, 1929—£210–£80=£130. The question of the depreciation allowance is more difficult. It is a definite rule of law that "renewals" and "depreciation" cannot be claimed simultaneously, and we feel that "G. S. S." will meet with much difficulty if he should, in all the circumstances, seek to establish that the £130 allowance is for "obsolescence" rather than for "renewal." We suggest, therefore, that he might drop any claim to depreciation on the new car for 1929–30, but claim it for 1930–31 and following years. There will be a temporary loss, but that will be put right automatically later on if "G. S. S." will make a point of claiming the obsolescence allowance when he replaces his present car.

Occasional Residence in this Country.

"CERONS" inquires whether he is liable for income tax on an annuity payable from Canada to France; he has a small income from investments in this country, is married, and lives in his wife's flat for about five months of the year.

*** It is not possible to deal very fully with this matter here; much turns on whether or not "Cerons" is liable as a British resident, and that is determinable partly by reference to his habits of returning to this country, social and business ties, etc. But on the facts as stated we are of opinion that our correspondent is not liable to account for tax on the annuity, and that tax is not deductible by him therefrom unless the share income is charged by way of security in favour of the annuity.

LETTERS, NOTES, ETC.

PAROXYSMAL TACHYCARDIA.

DR. W. F. LLOYD (Windsor) writes: Paroxysmal tachycardia starts suddenly, and as suddenly ceases, for no apparent reason; it is generally supposed that treatment has no effect on this condition. Yet there is a very easy method of treatment, which in less than a minute causes the heart to resume its natural rhythm. If the patient is told to take in a deep breath and retain it as long as possible, in a short time the heart will be found to have resumed its normal rate. Cases of ordinary palpitation may also be cured in this way, but not so certainly. The regular uniform pressure on the pericardium seems to produce this astonishing effect on the heart.

CANE SUGAR IN THERAPEUTICS.

DR. J. CAMERON (Beverley) writes: I observe that Dr. G. S. Baronsfeather (May 4th, p. 838) believes there is a special *something* in "cane" sugar not found in "beet" sugar. About a year ago I raised this question in respect of sweetness, etc., in a newspaper. I was answered by an expert chemist, who agreed with me that twenty years ago beet sugar was defective, but that to-day beet sugar could not be detected from cane sugar by any chemical or physical test. I quoted the scriptural allusion to *salt* and *savour*; this was readily disposed of by the chemist, and I agreed with him. The colour of Demerara sugar is readily washed off; some say this colour is an added quality. Apparently the "cane" *versus* "beet" *something* is a delusion, or requires explanation.

PROLONGED EMETINE TREATMENT.

DR. F. G. CAWSTON (Durban) writes: A piece of lint moistened with a saturated solution of magnesium sulphate and covered with oiled silk is very gratifying where any local reaction has occurred from an intravenous injection, and may be used to lessen the tenderness which sometimes follows intramuscular injections. In the Indian quarters round Durban whole families of children are sometimes infested with the bilharzia parasites. Children of 8 years tolerate the required dose of intravenous antimonium potassium tartrate very well and are not so liable to cough or vomit as European children, but I am not convinced that any curative treatment can yet be recommended to a little girl, aged 3, whose urine contains the ova of *Schistosoma haematobium* and much blood, or even younger children who likewise suffer from chronic haematuria in the same district. The injurious effects of prolonged administration of emetine have not been fully appreciated. Though the early signs of the accumulative action of emetine are more readily detected in the child than they are in an adult, any line of treatment should aim at a complete cure within one month, and the oral administration of any drug would necessitate a longer course of treatment than would be required by injections. By repeating the course of intramuscular injections of emetine hydrochloride I have obtained a complete cure in a little European boy, aged 4, but the total dose required is ill defined and heroic at such an age. Although emetine periodide may be recommended as a relatively safe preparation of this drug, it sometimes causes vomiting, unless patients are confined to bed and kept on a strict diet, as is to be preferred in the treatment of dysentery, for which the drug is more suitable. Since bilharzia infection tends to die out of itself in many cases, it would seem best not to undertake the treatment of very young children who are continually exposed to further infection, and may thus develop a relative immunity to the disease, until such a time as less toxic and more effective means of cure are at our disposal. But their presence in the neighbourhood emphasizes the need for more thorough prophylactic measures to avoid the dissemination of the three species of Schistosome worms which attack man in Natal.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 49, 50, 51, 54, 55, 56, and 57 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 52 and 53.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *191*.

"CIBA" BRAND

OVARIAN PREPARATIONS OF SPECIAL IMPORTANCE

STANDARDISED OVARIAN HORMONE

SISTOMENSIN

Indicated in Dysmenorrhœa, Menorrhagia, Menopause (natural and artificial), Hypoplasia of the Uterus, Infantilism, Sterility, etc.

Ampoules and Tablets.

HYDROSOLUBLE OVARIAN SUBSTANCE

AGOMENSIN

Of value in Functional Amenorrhœa, Oligomenorrhœa, Vomiting of Pregnancy, etc.

Ampoules and Tablets.

OVARIAN HORMONE COMPOUND

PROKLIMAN

Tablets for the treatment of Climacteric Disorders.

Bottles of 40 and 100.

Samples and Clinical Reports to Physicians on request.

THE CLAYTON ANILINE CO. LTD.
PHARMACEUTICAL DEPARTMENT
40, SOUTHWARK STREET, LONDON, S.E.1.

Telephones: HOP. 6954, 6955. *Telegrams:* CIBADYES BOROH LONDON.

Telephone No.: Gerrard 3185.

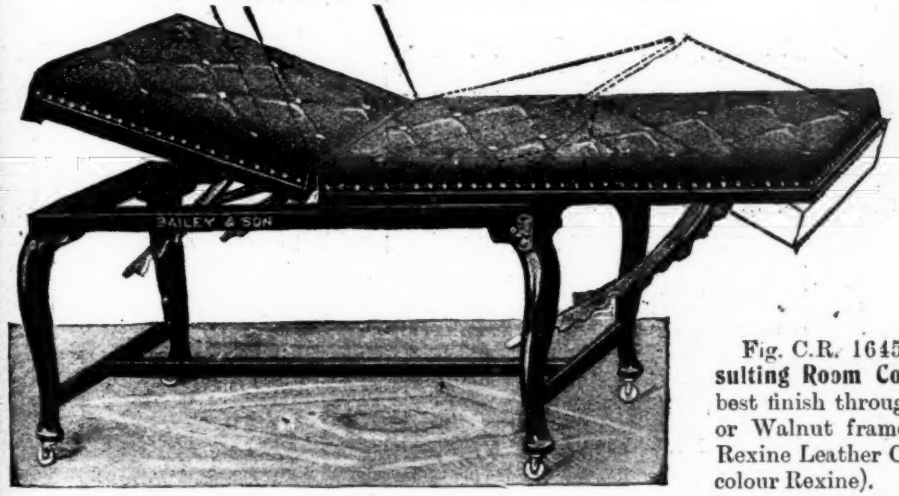
W. H. BAILEY & SON

Telegrams: "Bayleaf, London."

CONSULTING ROOM FURNITURE.

LATEST REDUCED PRICES.

Catalogue post free, with patterns of Rexine.



£10 15 0 Carriage Paid, England.

Detachable Leg Section extra **15s.** **Leg Crutches and Sockets** extra **36s.**

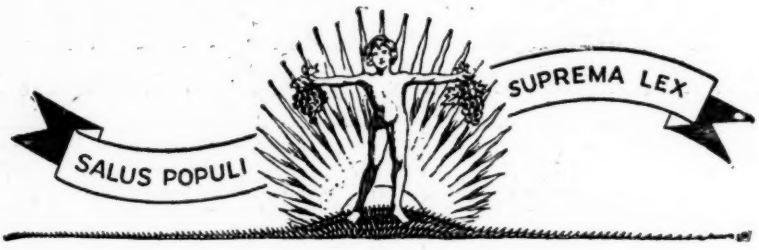
C.R. 4151.—**Personal Weighing Machine.** Height 10 in. Can be stowed away under couch. Enamelled Green or Black. Weighs accurately to 20 stone.
£3 3 0

S.P. 1040.—Basket to fit in platform of machine illustrated for weighing Babies ... ... **10/6** extra.

MOST SUITABLE FOR CLINICS.

Fig. C.R. 1645.—**Bailey's Perfection Consulting Room Couch,** handsome, strong, and best finish throughout, solid Mahogany, Oak, or Walnut frame, Upholstered hair and best Rexine Leather Cloth, buttoned or plain (any colour Rexine). Adjustable, and can instantly be converted into a chair for throat, nose and ear examinations.

Surgical Instruments and Appliances - - 45, OXFORD STREET,
Hospital and Invalid Furniture - - - 2, RATHBONE PLACE, } **LONDON, W.1.**



DIET AND CONSTIPATION.

THOUGH in all cases of intestinal atony the diet should be carefully considered, it has recently been pointed out by a distinguished physician attached to our largest hospital that "*in spite of the general belief, not very much can be done by diet in the treatment of constipation; and the patient's mind should be disabused of the idea that there is any particular harm in taking a regular aperient, provided it is of the right kind.*"

It can confidently be claimed that Eno's "Fruit Salt" comes within this category, for it is an aperient which acts solely by retaining water in the bowel—as a result of its increased osmotic density—thus maintaining bulk and adequate pressure, and so promoting peristalsis.

In contradistinction to most aperients, Eno's "Fruit Salt" has no irritant or chemical effect on the mucous membrane—and accordingly produces no nausea or discomfort.

"*The Doctor's Emergency Reminder.*"

The Proprietors of Eno's "Fruit Salt" will deem it a privilege to send to any member of the Medical Profession a copy of the latest addition to their series of "Medical Reminders"—with or without a bottle of their preparation (Handy or Household size as required). "THE DOCTOR'S EMERGENCY REMINDER" summarises briefly a few points in connection with the treatment of poisoning and various other emergency cases. It is bound in black morocco limp to conform to the style of the previous publications in this series.

J. C. ENO LTD., 160, PICCADILLY, LONDON, W.1.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.